

J U N E 2 0 2 1

REPORT TO THE CONGRESS

Medicare and the Health Care Delivery System



The Medicare Payment Advisory Commission (MedPAC) is an independent congressional agency established by the Balanced Budget Act of 1997 (P.L. 105–33) to advise the U.S. Congress on issues affecting the Medicare program. In addition to advising the Congress on payments to health plans participating in the Medicare Advantage program and providers in Medicare’s traditional fee-for-service program, MedPAC is also tasked with analyzing access to care, quality of care, and other issues affecting Medicare.

The Commission’s 17 members bring diverse expertise in the financing and delivery of health care services. Commissioners are appointed to three-year terms (subject to renewal) by the Comptroller General and serve part time. Appointments are staggered; the terms of five or six Commissioners expire each year. The Commission is supported by an executive director and a staff of analysts, who typically have backgrounds in economics, health policy, and public health.

MedPAC meets publicly to discuss policy issues and formulate its recommendations to the Congress. In the course of these meetings, Commissioners consider the results of staff research, presentations by policy experts, and comments from interested parties. (Meeting transcripts are available at www.medpac.gov.) Commission members and staff also seek input on Medicare issues through frequent meetings with individuals interested in the program, including staff from congressional committees and the Centers for Medicare & Medicaid Services (CMS), health care researchers, health care providers, and beneficiary advocates.

Two reports—issued in March and June each year—are the primary outlets for Commission recommendations. In addition to annual reports and occasional reports on subjects requested by the Congress, MedPAC advises the Congress through other avenues, including comments on reports and proposed regulations issued by the Secretary of the Department of Health and Human Services, testimony, and briefings for congressional staff.

REPORT TO THE CONGRESS

Medicare and the
Health Care
Delivery System



425 I Street, NW • Suite 701 • Washington, DC 20001
(202) 220-3700 • www.medpac.gov



425 I Street, NW • Suite 701
Washington, DC 20001
202-220-3700
www.medpac.gov

Michael E. Chernew, Ph.D., Chair
Paul B. Ginsburg, Ph.D., Vice Chair
James E. Mathews, Ph.D., Executive Director

June 15, 2021

The Honorable Kamala D. Harris
President of the Senate
U.S. Capitol
Washington, DC 20510

The Honorable Nancy Pelosi
Speaker of the House
U.S. House of Representatives
U.S. Capitol
Room H-232
Washington, DC 20515

Dear Madam President and Madam Speaker:

I am pleased to submit the Medicare Payment Advisory Commission's June 2021 *Report to the Congress: Medicare and the Health Care Delivery System*. This report fulfills the Commission's legislative mandate to evaluate Medicare payment issues and make recommendations to the Congress.

In the 10 chapters in this report, we consider:

- changes to the way Medicare Advantage benchmarks are determined
- CMS's portfolio of alternative payment models
- the effect of private equity investments on the Medicare program, a congressional request
- the skilled nursing facility value-based purchasing program, a mandated report
- Medicare beneficiaries' access to care in rural areas, a congressional request
- Medicare's indirect medical education payment policy
- coverage of and payment policies for preventive vaccines
- separately payable drugs in the hospital outpatient prospective payment system
- payment rates for clinical laboratory tests, a mandated report
- the relationship between services furnished by clinicians and other Medicare services, a mandated report

This report primarily focuses on Medicare's payment policies and recommends ways to improve those policies where appropriate, which I hope you find useful. At same time, I and the rest of the Commission are fully aware of the extraordinary challenges faced by the health care system, Medicare beneficiaries, and policymakers in dealing with the ongoing coronavirus public health emergency. The Commission is closely following developments related to the pandemic and incorporating lessons from the experience into our work. We remain ready to assist as the Congress and CMS respond to the pandemic, as part of our mission to preserve beneficiaries' access to high-quality care, control Medicare spending growth, and provide sufficient payment for efficient providers.

Sincerely,

A handwritten signature in black ink, appearing to read "m. chernew", followed by a horizontal line that extends to the right and then turns upwards at the end.

Michael E. Chernew, Ph.D.

Enclosure

Acknowledgments

This report was prepared with the assistance of many people. Their support was key as the Commission considered policy issues and worked toward consensus on its recommendations.

Despite a heavy workload, staff members of the Centers for Medicare & Medicaid Services and the Department of Health and Human Services were particularly helpful during preparation of the report. We thank Vani Annadata, Jennifer Boulanger, Sarah Harding, Ryan Howe, Daver Kahvecioglu, Laura Kennedy, Pauline Lapine, Alan Levitt, Ellen Lukens, Renee Mentnech, Manda Newlin, David Nyweide, John Pilotte, Chris Ritter, Will Robinson, Claire Schreiber, Sarah Shirey-Losso, Lara Strawbridge, Gift Tee, Donald Thompson, David Vance, Sacha Wolf, and Arielle Woronoff.

The Commission also received valuable insights and assistance from others in government, industry, and the research community who generously offered their time and knowledge. They include Loren Adler, Michael Bagel, Bob Berenson, Jeannie Fuglesten Biniek, Mark Birenbaum, Tara Burke, Kathy Buto, Joseph Bruch, Mike Cheek, Laurie Coots, Juliette Cubanski, Nicole Fallon, Jessica Farb, Mark W. Friedberg, Richard Fuller, Dave Gifford, Caitlin Gillooley, Greg Giusto, Atul Gupta, Stuart Hammond, Tamara Hayford, Carrie

Henning-Smith, Mark Holmes, Gretchen Jacobson, Joanna Kim, Brian Klein-Qiu, Bharath Krishnamurthy, Paul Masi, Jennifer McLaughlin, Rob Mechanic, Alan Morgan, Jason Mulvihill, Molly Collins Offner, Janis M. Orłowski, Deborah Peikes, Daria Pelech, Jennifer Perloff, Sarah Rayel, Sarah Sajewski, Roslyne Schulman, Misha Segal, Zirui Song, Steve Speil, Molly Turco, Danielle Turnipseed, Cori Uccello, and Elizabeth Wynn.

Since 1997, the team at Social & Scientific Systems has provided highly capable programming and data management support to Commission staff. We are grateful for the dedicated partnership of Daksha Damera, Po-Lun Chou, Cindy Saiontz-Martinez, and Susan Tian. In addition, we appreciate the hard work of Aaron Aamodt, John Crouch, Edward Hock, Jeff Hsui, Ben Jolles, Darya Leyzarovich, Sravani Mallela, Sane Maphungphong, Darryl Mason, and Allen Selwyn. We also acknowledge the contributions of former staff, including Valerie Aschenbach, Donna Bareis, Kevin Beverly, Debbie Johnson, Mary Frances leMat, James Lynch, Shelley Mullins, Charles Thomson, and Arlene Turner.

Finally, the Commission wishes to thank Hannah Fein, Mary Gawlik, and Melissa Lux for their help in editing and producing this report. ■

Table of contents

Acknowledgments	v
Executive summary	xi
Chapters	
1 Rebalancing Medicare Advantage benchmark policy	3
Background	7
Problems with the current benchmark policy	11
Simulating an alternative benchmark policy	18
Recommendation	28
2 Streamlining CMS's portfolio of alternative payment models	41
Background	45
The impacts of alternative payment models	49
Why pursue APMs?	56
Factors that may be limiting the success of APMs	57
Unintended consequences of implementing multiple concurrent APMs	58
Recommendation	59
3 Congressional request: Private equity and Medicare	71
Background	75
Many Medicare providers have complex business structures that make it difficult to identify ownership and control	81
Business models for PE investments in health care	86
Effects of PE investment on Medicare costs, beneficiary experience, and provider experience	96
PE involvement with the Medicare Advantage program	101
Conclusion	106
4 Mandated report: Evaluating the skilled nursing facility value-based purchasing program	119
Background	123
Evaluation of the skilled nursing facility value-based purchasing program	124
Design of a SNF value incentive program	136
A SNF value incentive program would create strong incentives to improve performance and make payments more equitable	147
Recommendations	154
5 Congressional request: Medicare beneficiaries' access to care in rural areas (interim report)	165
Background	171
Rural and urban beneficiaries have similar access to care, although some differences exist	171
Examining causes and effects of rural hospital closures	183
Improving Medicare's policies to support access to care in rural areas	191
6 Revising Medicare's indirect medical education payments to better reflect teaching hospitals' costs	207
Background	211
Concerns about Medicare's IME policy	213

Principles for IME payment reform	216
Effects of a revised budget-neutral inpatient and outpatient IME policy.	218
Recommendation.	225
7 Medicare vaccine coverage and payment	241
Medicare coverage of vaccines under Part B and Part D	245
The CDC’s vaccine recommendations and uptake among Medicare beneficiaries	246
Medicare spending for vaccines	250
How Medicare pays for vaccines under Part B and Part D	254
Improving Medicare coverage and payment for preventive vaccines	257
Recommendation.	263
8 Improving Medicare’s policies for separately payable drugs in the hospital outpatient prospective payment system.	277
Background	281
When are drugs separately payable under the OPPS?	282
Concerns about OPPS policies for separately payable drugs.	284
Improving OPPS policy for new drugs that are supplies to a service	286
Improving OPPS policy for drugs that are the reason for a visit	289
Recommendations.	290
9 Mandated report: Assessing the impact of recent changes to Medicare’s clinical laboratory fee schedule payment rates	297
Background	301
Independent laboratories were overrepresented in the first round of data reporting	306
Implementing private payer–based rates substantially lowered CLFS rates, but rates for some tests increased	308
Use of CLFS tests has been stable under new payment rates, but spending increased.	311
Sampling laboratories could produce accurate rates with less burden on laboratories	315
Basing CLFS rates on a representative sample of laboratories would increase spending.	320
Basing CLFS rates on a representative sample of private-payer rates may be undesirable in certain circumstances	325
10 Mandated report: Relationship between clinician services and other Medicare services	337
Background	341
Evaluating spending on and use of clinician services relative to all Part A and Part B services	341
Relationship between spending on and use of clinician services and Part D drugs	349
Implications of our findings	353
Appendix A Commissioners’ voting on recommendations.	359
Acronyms	365
More about MedPAC	
Commission members.	371
Commissioners’ biographies.	373
Commission staff.	377

Executive summary

Executive summary

As part of its mandate from the Congress, each June the Commission reports on refinements to Medicare payment systems and issues affecting the Medicare program, including broader changes in health care delivery and the market for health care services. In the 10 chapters of this report, we consider:

- ***Rebalancing Medicare Advantage benchmark policy.*** The Commission evaluates the way benchmarks are set for Medicare Advantage (MA) plans and recommends a number of changes to MA benchmark policy. Our recommended approach would reduce MA benchmarks to capture some of the efficiencies generated by MA with relatively few disruptions to supplemental benefits.
- ***Streamlining CMS's portfolio of alternative payment models.*** The Commission examines the performance of alternative payment models (APMs) over the last decade and recommends that Medicare move toward implementing a smaller, more harmonized portfolio of APMs.
- ***Private equity and Medicare.*** In response to a congressional request, the Commission identifies gaps in Medicare's ability to collect information about private equity investments in health care and examines how such investments have affected Medicare beneficiaries, providers, and MA plans.
- ***The skilled nursing facility value-based purchasing program.*** As directed by the Protecting Access to Medicare Act of 2014, the Secretary of Health and Human Services began to implement a value-based purchasing program for skilled nursing facilities in October 2018. In this congressionally mandated report, the Commission finds that the current program is flawed and recommends that it be replaced with a value incentive program that follows the Commission's principles for performance programs.
- ***Medicare beneficiaries' access to care in rural areas.*** In this congressionally requested interim report, the Commission examines rural beneficiaries' access to care, using Medicare claims data, survey data, and interviews with stakeholders. We also examine rural hospital closures, a trend that has become more prominent over the last decade and could affect access to care for beneficiaries living in rural areas.
- ***Revising Medicare's indirect medical education payments to better reflect teaching hospitals' costs.*** The Commission raises several concerns about Medicare's current indirect medical education (IME) payment policy and recommends a new approach that would transition to empirically justified levels of IME payments while better aligning IME payments with the contemporary spectrum of settings in which residents train and patients receive hospital care.
- ***Medicare vaccine coverage and payment.*** The Commission recommends that the Congress move all preventive vaccine coverage to Part B without beneficiary cost sharing and improve the accuracy of Medicare's Part B payment for preventive vaccines by modifying the current payment method and collecting data to enable further improvements in the future.
- ***Improving Medicare's policies for separately payable drugs in the hospital outpatient prospective payment system.*** Medicare's outpatient prospective payment system bundles multiple services into one payment to create incentives for providers to be judicious about the cost inputs of the services they provide. In certain circumstances, some items are not bundled but are paid separately. The Commission recommends several changes to the policies that govern which drugs are paid separately to strike a better balance between promoting access to high-cost innovative treatments and maintaining pressure on providers to be efficient.
- ***The impact of recent changes to Medicare's clinical laboratory fee schedule payment rates.*** Beginning in 2018, Medicare sets clinical laboratory fee schedule (CLFS) payment rates based on the rates private payers pay for laboratory tests. In this mandated report, the Commission reviews the impact of the changes to the CLFS and explores possible modifications to the processes of collecting private-payer data from laboratories.
- ***The relationship between clinician services and other Medicare services.*** In June 2017, the Commission published an initial congressionally mandated report on the relationship between the use of and expenditures for services provided by physicians and other health professionals and total service use and expenditures under Part A, Part B, and Part D

of Medicare. In this final report, the Commission examines the relationship between clinician service use and nonclinician service use over the 2013 to 2018 period.

This report primarily focuses on Medicare's payment policies and recommends ways to improve those policies where appropriate. At the same time, the Commission is fully aware of the extraordinary challenges faced by the health care system, Medicare beneficiaries, and policymakers in dealing with the ongoing coronavirus public health emergency. The Commission is closely following developments related to the pandemic and incorporating lessons from the experience into our work. We remain ready to assist the Congress and CMS in responding to the pandemic as part of our mission to preserve beneficiaries' access to high-quality care, control Medicare spending growth, and provide sufficient payment for efficient providers.

Rebalancing Medicare Advantage benchmark policy

In Chapter 1, the Commission recommends a number of changes to the way payment benchmarks are determined for the MA program. The current benchmarks have resulted in a very robust MA program with respect to plan participation, beneficiary enrollment, and the value of extra benefits provided to enrollees. But, in spite of the apparent relative efficiency of MA, no iteration of private plan contracting has yielded net aggregate savings for Medicare. The Commission estimates that Medicare currently spends 4 percent more per capita for beneficiaries enrolled in MA than it spends for similar enrollees in traditional fee-for-service (FFS) Medicare.

Current MA benchmark policy uses a quartile system that generates geographic variation in plan payments, including plan subsidies of varying size in most geographic areas, that are not necessary for maintaining affordable supplemental coverage and that fail to capture savings for the Medicare program. The quartile-based benchmarks support higher payments to MA plans in areas where FFS spending is low. Despite most plans bidding below FFS spending in these areas, payments are 9 percent higher than the areas' FFS spending, and MA enrollment is disproportionately higher than in many other areas. At the same time, the quartile system insufficiently leverages plan efficiency in areas where FFS spending is high. Plans in these areas bid lower relative to their benchmarks and thus receive disproportionately more rebate dollars—the

amount of which equals a share of the difference between a plan's bid and its benchmark.

Because plan bids are at levels well below FFS spending, the Medicare program could share in plan efficiencies by making appropriate reductions in payment benchmarks. A better MA benchmark policy would rebalance benchmarks to allow the Medicare program to capture some MA efficiencies while mitigating potential decreases in plan participation and benefits. In Chapter 1, the Commission recommends that the Congress implement a new MA benchmark policy that does the following:

- ***Uses a relatively equal blend of per capita local area FFS spending and standardized national FFS spending.*** Relative to current policy, benchmarks in low-FFS-spending areas would be aligned more closely with (but remain above) local FFS spending. On average, benchmarks in areas with high FFS spending would modestly decrease relative to current policy, allowing the program to capture additional efficiencies in areas where plan bids are lowest relative to their benchmarks.
- ***Uses a rebate of at least 75 percent.*** The rebate percentage (i.e., the share of the difference between the plan bid and benchmark) that is paid to plans for funding extra benefits would be decoupled from the MA quality bonus program and would increase for all plans to create greater incentives for plan efficiency.
- ***Integrates a discount rate of at least 2 percent.*** A discount rate would reduce the local–national blended spending amounts, explicitly integrating the efficiency of MA into the benchmark calculation. A discount rate of at least 2 percent would help ensure that the Medicare program shares in the efficiencies generated by MA.
- ***Applies the Commission's prior MA benchmark recommendations—using geographic markets as payment areas, using the FFS population with both Part A and Part B in benchmarks, and eliminating the current pre-Affordable Care Act cap on benchmarks.*** This approach would use geographic markets (e.g., multicounty areas) as payment areas to help ensure stability in benchmarks, calculate benchmarks using the FFS population with both Part A and Part B coverage to ensure comparability with the MA-eligible population, and eliminate caps on benchmarks that disproportionately affect areas where FFS spending is low.

The chapter contains findings from simulations of our recommended benchmark policy, comparing it with existing policy. The simulations demonstrate that CMS could feasibly implement our recommended policy with likely little impact on plan participation; doing so would generate about 2 percentage points in savings to the Medicare program, relative to current policy.

Streamlining CMS's portfolio of alternative payment models

In Chapter 2, the Commission recommends that Medicare implement a smaller, more harmonized portfolio of APMs. Most of CMS's APMs are operated by its Center for Medicare and Medicaid Innovation (CMMI), which was established in 2010 by the Affordable Care Act (ACA) to implement and study new payment and care delivery models. (CMS's largest APM, the Medicare Shared Savings Program, was created as a permanent program by the ACA and is not operated by CMMI.) CMMI's APMs are temporary demonstrations that can be expanded into permanent programs only if they are found to either reduce spending in Medicare, Medicaid, or the Children's Health Insurance Program while preserving care quality or if they improve care quality without increasing spending. In CMMI's first 10 years, almost all of its accountable care organization and episode-based payment models generated small gross savings for the Medicare program before model payments (e.g., performance bonuses) were taken into account. This promising indicator suggests that these models' incentives may have been able to encourage provider organizations to induce clinicians to alter their care patterns—changing the quantity or the mix of health care services they furnish or prescribe. After bonuses were paid, savings were reduced and in some cases Medicare expenditures in the APM exceeded what they would have otherwise been.

In many cases, providers participate in multiple CMS APMs simultaneously, and Medicare beneficiaries are attributed to multiple models at the same time. This overlapping participation can have unintended consequences. For instance, savings that are generated for a beneficiary served by different sets of providers participating in different APMs can be allocated to providers in only one of these models, thus diluting financial incentives in the other models. Overlapping participation can also make it difficult for evaluators to accurately assess the impact of a given payment model on program spending and quality.

The strategy of implementing a plethora of models over the last decade has given the agency an opportunity to build up the evidence base about what works and what does not. While this strategy has yielded valuable information, the Commission contends that continuing to test a large number of independent APMs is likely to inhibit the ability of APMs to reach their full potential.

The Commission therefore recommends that CMS now implement a smaller, more harmonized portfolio of APMs that are designed to work together. A smaller portfolio of models could result in less overlap between different models; when overlap does exist, models should be designed to have incentives that do not diminish in strength when combined with other models. To minimize complexity, the payment models in CMS's portfolio could use consistent model parameters (e.g., consistent methods for calculating spending targets and measuring quality).

Congressional request: Private equity and Medicare

In Chapter 3, the Commission responds to a request from the chair of the Committee on Ways and Means to examine the role that private equity (PE) plays in the Medicare program. *Private equity* refers broadly to any activity where investors buy an ownership, or equity, stake in companies or other financial assets that are not traded on public stock or bond exchanges. One type of PE activity that has drawn growing attention in recent years involves investment firms that purchase companies and then try to improve their operational and financial performance so they can later be sold for a substantial profit. These types of acquisitions have become increasingly common in many parts of the economy, including the health care sector.

In responding to the request, we examined four issues related to private equity and Medicare: gaps in Medicare data that create challenges in tracking private equity investments; private equity funds' business models when investing in health care; how private equity investments may have affected Medicare costs and quality of care; and private equity investments in companies that participate in the MA program.

- **Gaps in Medicare data**—Understanding which individuals or entities own a Medicare provider and their track record of operations could help to improve oversight and safeguard patient care. CMS primarily collects data on provider ownership to support the

enrollment process, payment, and fraud prevention, rather than research on the prevalence of different types of ownership. Observers have noted for many years that the ownership data submitted to CMS are incomplete and sometimes inaccurate. One obstacle is capturing ownership data for providers (such as nursing homes and some hospitals) that are part of complex corporate structures with multiple levels and subsidiaries. CMS's ownership data typically do not indicate a parent organization atop a hierarchy of legal entities. More complete ownership data and greater transparency of ownership are highly important. However, under constrained resources, the feasibility of CMS identifying parent organizations for large numbers of Medicare providers and suppliers is a difficult challenge.

- ***PE funds' business models***—We examined PE business models in three key sectors: hospitals, nursing homes, and physician practices. PE firms use several common strategies to make the providers they own in these sectors more profitable. Many of these strategies are also used by for-profit providers that are not PE owned. Some of those strategies focus on increasing revenues while others focus on reducing costs. Other strategies are more relevant to individual sectors, such as selling off a nursing home's real estate or creating larger physician practices by acquiring a “platform” practice and then buying smaller practices in the same market.
- ***The effect of PE investment on Medicare costs and quality of care***—We examined evidence of the effects of PE investments in hospitals, nursing homes, and physician practices. We found that PE-owned hospitals tended to have lower costs and lower patient satisfaction than other for-profit and nonprofit hospitals. However, our cross-sectional analysis cannot be used to conclude that PE ownership caused the lower costs or satisfaction. A recent longitudinal study found that PE-owned hospitals had above-average growth in charges after being acquired by a PE firm. Findings on hospital quality were mixed. For nursing homes, the research literature is somewhat dated, and the findings on the effects of PE ownership on financial and quality of care indicators are mixed. For physician practices, there is a lack of peer-reviewed, empirical evidence of the impact of PE ownership on Medicare spending, quality of care, and patients' experience.

- ***PE investments in companies that participate in MA***—We found that PE funds own about 2 percent of the companies (6 out of 309) offering MA plans in January 2021. In addition, PE firms (largely venture capital firms) have invested in a range of companies that work for MA plan sponsors. Many of these companies provide services or care management to enrollees, and several are paid using value-based contracts where they bear some financial risk for enrollees' overall health costs. We did not find any research that examines the effects of PE investments in MA companies on Medicare costs. Such an analysis would be very difficult to conduct due to various data limitations.

Mandated report: Evaluating the skilled nursing facility value-based purchasing program

In Chapter 4, the Commission recommends replacing the skilled nursing facility value-based purchasing (VBP) program, in response to a mandate in the Protecting Access to Medicare Act of 2014 to review the progress of the VBP program for skilled nursing facilities (SNFs) and make recommendations as appropriate. By statute, the VBP program uses a single measure (hospital readmissions) to gauge SNF performance. Each SNF's performance on the measure determines (1) whether it receives a reward, a penalty, or no change in payment and (2) the size of the payment adjustment. The VBP program is funded by a 2 percent reduction to payments each year (not cumulative), and Medicare retains a portion of the amount withheld as savings.

Our assessment of the SNF VBP program revealed fundamental design flaws that recent legislated changes do not fully correct. First, the single outcome measure does not capture the multidimensions of health care quality. Second, the minimum stay counts to include providers in the program are too low to ensure that the program rewards performance rather than random variation. Third, the performance scoring includes “cliffs”—that is, preset numeric thresholds (also required by statute)—that may not provide enough encouragement for improvement. Fourth, the design does not address variation across SNFs in the social risk factors of their patient populations, disadvantaging SNFs with high social risk populations. Indeed, we found that SNFs treating high shares of fully dual-eligible beneficiaries or SNFs whose beneficiaries

were medically complex were more likely to be penalized under the program, which could create incentives for providers to avoid admitting these beneficiaries. Finally, the SNF VBP program does not distribute the entire pool of incentive payments (a statutory requirement) but instead retains a portion as program savings. Our analysis found that payments were lowered for almost three-quarters of providers and the rewards and penalties were relatively small.

Analyzing these flaws, the Commission concluded that the current SNF VBP program should be immediately eliminated and a replacement program established as soon as feasible. In place of the SNF VBP, the Commission recommends a SNF value incentive program (VIP) design based on the Commission's principles for quality measurement and our previous work on redesigning Medicare quality incentive programs. Our recommended SNF VIP would:

- ***Score a small set of performance measures.***
- ***Incorporate strategies to ensure reliable measure results,*** such as using a higher reliability standard for determining the minimum number of stays required for a SNF to be included in scoring. To include low-volume providers in the program, the SNF VIP could score multiple years of performance.
- ***Establish a system for distributing rewards with minimal “cliff” effects.*** A continuous performance scale would result in every SNF having an incentive to improve.
- ***Account for differences in patients’ social risk factors using a peer-grouping mechanism*** that stratifies providers into peer groups based on the social risk factors of their patient population. A provider's payment adjustment will vary based on its performance on a national performance scale and its performance relative to its peers. Providers in peer groups with high social risk patient populations will receive larger adjustments for attainments in quality compared with other providers.
- ***Distribute the entire provider-funded pool of dollars as rewards*** based on provider performance. Though not explicitly designed to achieve program savings, improved provider performance (e.g., fewer readmissions) may lower program spending.

For illustrative purposes using currently available data, we modeled a VIP design for scoring SNF performance and adjusting SNF payments accordingly. Our illustrative modeling found that a SNF VIP design is feasible. Across providers with similar shares of patients at social risk, the SNF VIP would increase payments for SNFs with better performance and reduce payments for those with worse performance. Also, unlike the current program, the SNF VIP would result in more equitable payments across SNFs and reduce the incentive to avoid admitting beneficiaries with high social risk factors or clinically complex beneficiaries. We found that hospital-based providers would perform better than freestanding facilities under the SNF VIP but otherwise found few differences in the SNF VIP payment adjustments by provider characteristics.

Congressional request: Medicare beneficiaries’ access to care in rural areas (interim report)

In Chapter 5, in response to a request by the House Committee on Ways and Means, we provide an interim report on rural beneficiaries’ access to care. The Commission's annual survey of Medicare beneficiaries and CMS's Medicare Current Beneficiary Survey suggest that rural and urban beneficiaries have similar access to care, although some minor differences exist and those differences may increase as rurality increases. Likewise, our analysis of Medicare claims data indicates rural and urban beneficiaries generally have comparable utilization rates among the types of services we examined—clinician visits, hospital inpatient admissions, hospital outpatient visits, home health episodes, and skilled nursing facility days. Similar to our 2012 report, we found substantial variation across geographic regions of the country, and those differences often were far larger than differences between rural and urban beneficiaries in a given region.

In Chapter 5, we also examine the growing number of rural hospital closures, a trend that could affect beneficiaries’ access to care. To study the causes and effects of rural hospital closures, we conducted interviews with stakeholders (including community members, hospital executives, and clinician leaders) from three communities that experienced a recent hospital closure and analyzed a cohort of 40 rural hospitals that closed between 2015 and 2019.

- Stakeholders from the three communities suggested that, prior to closure, patients commonly bypassed their local hospital for inpatient care, often due

to perceived deficits in capabilities. Stakeholders from these communities reported that after their local hospital closed, the communities focused on maintaining access to emergency department (ED) care, urgent care, and primary care. In the three communities in which we conducted interviews, Federally Qualified Health Centers were critical to maintaining access to primary care, and sometimes urgent care, after the local hospital closed.

- Among the cohort of 40 recently closed hospitals, we found large declines in all-payer inpatient admissions (across a broad range of service lines) in the years before closure. From 2005 to 2014 (a period that began at least a decade before closure), the cohort averaged a 54 percent decline in all-payer inpatient admissions. By 2014, the median number of annual all-payer admissions at the 40 hospitals had fallen to 488—about 1.3 admissions per day. Most of this decline was attributable to patients bypassing their local hospital in favor of other hospitals. In contrast, up to the date of closure, Medicare beneficiaries continued to use these 40 hospitals to access ED and outpatient care.

To address the most recent increase in rural hospital closures, some stakeholders have proposed options that would seek to preserve inpatient services. In 2018, the Commission recommended that Medicare allow isolated freestanding EDs to bill Medicare and provide such EDs with annual payments to assist with fixed costs. Along these lines, the Congress recently enacted a program that will allow certain hospitals to convert to a “rural emergency hospital.” These new rural emergency hospitals will not provide inpatient care but will provide round-the-clock ED care and will be able to furnish other services, such as outpatient services, nursing facility services, and ambulance services. Medicare will pay these new providers a monthly fixed rate, enhanced outpatient rates, and standard rates for other types of care. In addition to the newly established rural emergency hospital designation, the Congress recently enacted other provisions designed to increase access to care among rural beneficiaries, including more than doubling Medicare’s payment rate cap for certain rural health clinics. Any future analyses on rural communities’ access to care will need to account for these substantial policy changes, which are likely to help maintain or increase access to care for rural beneficiaries.

This interim report will be followed by a final report in June 2022. In response to our congressional mandate,

over the next year, the Commission plans to expand our utilization analyses to include information on beneficiaries who are dually eligible for Medicaid and Medicare, have multiple chronic conditions, or reside in a medically underserved area.

Revising Medicare’s indirect medical education payments to better reflect teaching hospitals’ costs

In Chapter 6, the Commission recommends a new approach to Medicare’s indirect medical education (IME) payment policy. IME payments are designed to support teaching hospitals’ higher costs of inpatient care and are implemented through IME adjustments in the inpatient operating and inpatient capital prospective payment systems. In fiscal year 2019, the roughly 1,100 acute care teaching hospitals received over \$10 billion in IME payments, which is well above the empirically justified level. (Medicare also supports teaching hospitals through direct medical education payments, which help finance the direct costs of residency programs, such as resident stipends, supervisory physician salaries, and administrative overhead expenses. In 2019, direct graduate medical education payments to hospitals totaled nearly \$4 billion.)

The Commission has two key concerns with Medicare’s current IME payment policy. First, IME policy is “inpatient-centric”—that is, it focuses exclusively on teaching hospitals’ additional costs of inpatient services—and does not reflect the range of hospital settings in which residents train and patients receive care. Second, IME payments do not accurately reflect the effect of teaching on patient care costs across settings, resulting in IME payments above teaching hospitals’ additional costs for patient care in inpatient settings but below their additional costs for patient care in hospital outpatient settings. Together, these two features of current IME payment policy create financial penalties in the form of lost IME revenue when teaching hospitals safely shift care from inpatient to outpatient settings.

In response to these concerns, the Commission has included the following in its principles for IME reform:

- IME payments should be made for both inpatient and outpatient prospective payment system (PPS) services;
- IME payment adjustments should be based on hospitals’ ratio of residents to patients; and

- Medicare should transition to empirically justified levels of IME payments, such as by maintaining aggregate IME payments equal to current policy until such time that they match empirically justified levels.

Following the principles above, we modeled an illustrative inpatient and outpatient IME policy that would more accurately reflect teaching hospitals' additional costs. Under the revised IME policy, inpatient and outpatient IME payments would be based on empirically justified levels and then scaled such that aggregate IME payments equaled those under current policy. The revised policy would result in a small aggregate change in total inpatient and outpatient FFS payments for most teaching hospitals and for most groups of teaching hospitals. However, the revised policy would shift IME payments toward teaching hospitals with additional costs not accounted for in the current policy, including most hospitals that currently treat a larger share of Medicare patients in outpatient settings. Over time, as care continues to shift to outpatient settings, we anticipate that empirically justified IME payments would match and then exceed those under the current policy baseline; once that occurs, IME payments could be set at their (higher than current-law) empirically justified levels.

The Commission recommends transitioning to an empirically justified inpatient and outpatient IME policy such as the one we modeled. A revised IME policy would better align IME payments with the contemporary spectrum of settings in which residents train and patients receive hospital care; reduce the financial penalty of lost IME revenue when teaching hospitals treat Medicare beneficiaries in appropriate outpatient, rather than inpatient, settings; and make IME payments more equitable for teaching hospitals as they shift to providing more care and resident training in hospital outpatient settings. Moving forward, it will be important for CMS to monitor the effects of the revised IME policy and collect additional data to support further improvements to the accuracy of IME payments. At the same time, policymakers should continue to work toward broader graduate medical education reforms to support future workforce needs.

Medicare vaccine coverage and payment

In Chapter 7, the Commission recommends improvements to Medicare's coverage and payment policies for preventive vaccines. Currently, Medicare covers vaccines under Part B and Part D. Part B covers preventive vaccines explicitly listed in statute—influenza, pneumococcal

disease, hepatitis B (for patients at high or intermediate risk), and COVID-19, as well as other vaccines when used to treat an illness or injury. Part D covers all commercially available preventive vaccines not covered by Part B, such as vaccines for shingles and hepatitis A.

In 2007, the Commission recommended that all preventive vaccine coverage be moved to Part B, and there continues to be a strong rationale for this approach. More Medicare beneficiaries are enrolled in Part B than in Part D. High cost sharing in some Part D plans may deter some beneficiaries from seeking recommended vaccines. A variety of health care providers bill Medicare Part B, offering more potential settings in which to vaccinate beneficiaries than under Part D. Finally, beneficiaries and even some providers can find it confusing to understand which vaccines are covered by Part B versus Part D. Thus, in this report, the Commission recommends that all preventive vaccine coverage be moved to Part B without cost sharing.

At the same time, however, the Commission is concerned about Medicare's payment method for Part B-covered preventive vaccines. Medicare pays for most preventive vaccines at a rate of 95 percent of the average wholesale price (AWP), a list price that may have little relationship to market prices. In the short term, payment accuracy for Part B vaccines could be improved by basing payment on wholesale acquisition cost (WAC)—the price at which the manufacturer sells the vaccine to the wholesaler. Medicare's AWP-based payment rates for Part B vaccines significantly exceed WAC. Thus, in addition to recommending that all preventive vaccine coverage be moved to Part B without cost sharing, the Commission recommends that the Congress shift the basis of payment for Part B vaccines to 103 percent of WAC. Doing so would generate savings for beneficiaries and taxpayers and bring payment rates closer to market prices.

Although WAC is a better measure of drug prices than AWP, WAC does not incorporate any discounts or rebates that may be available. Ultimately, a payment rate based on average sales price (ASP)—the average price realized by the manufacturer for the vaccine net of rebates, discounts, and other price concessions—might be most appropriate because it would reflect the average market price rather than an undiscounted wholesale price. However, because ASP is an average, we cannot assess how much the acquisition prices for vaccines vary across purchasers such as physicians and pharmacies. In addition, it is

unclear how the two-quarter lag in ASP data would affect Medicare payment rates for vaccines, especially given the seasonality of the influenza vaccine. Therefore, more study is needed before moving to an ASP-based payment rate for vaccines. The Commission recommends that Medicare require manufacturers to report ASP data for vaccines to facilitate this study. Once the study is completed, the Commission urges the Secretary to make the results of the analysis public and seek statutory authority to adopt an ASP-based payment rate for preventive vaccines if it would improve payment accuracy.

Improving Medicare's policies for separately payable drugs in the hospital outpatient prospective payment system

In Chapter 8, the Commission recommends an improvement to the system of drug payment in the outpatient prospective payment system (OPPS). The unit of payment in the hospital OPPS is the primary service, which is a service that is the reason for which a patient has a visit to a hospital outpatient department (HOPD). Drugs that are furnished during HOPD visits can be the reason for the visit (the primary service itself) or can be ancillary supplies to a primary service. Medicare pays separately for most drugs that are the reason for an HOPD visit, whereas most drugs used as supplies to a primary service are packaged into the payment rate of the applicable service. Packaging drugs used as supplies and other ancillary items with the primary service encourages efficient delivery of care.

The OPPS has two policies that provide separate payment for drugs: the pass-through policy and the separately payable non-pass-through (SPNPT) policy. Although both policies provide separate payments for drugs, they serve somewhat different purposes. The pass-through policy is focused on drugs that are new to the market and have costs that are high in relation to the OPPS payment rates for the applicable services. The intent of the pass-through policy is to provide temporary separate payments to ensure adequate reimbursement for these drugs while CMS collects the data needed to establish accurate packaged payments. In contrast, the SPNPT policy is intended to provide adequate payment for relatively high-cost drugs that are already established in the drug market—meaning the drug has been on the market too long to be eligible for the pass-through policy.

The Commission is concerned that the criteria for drugs to be eligible for separate payment under the OPPS do not strike an appropriate balance between promoting access to high-cost innovative treatments and maintaining pressure

on providers to be efficient. Specific concerns include the following:

- The pass-through policy does not include a requirement that a drug show clinical superiority over similar treatments to qualify. Without a clinical superiority requirement, Medicare could pay separately for a drug no more effective than a competing drug already in use, even when the cost of the existing drug is reflected in the OPPS payment rate for the applicable service. This situation results in Medicare making additional payments for a drug that is no more effective than less costly drugs.
- Both the pass-through and SPNPT policies include drugs that are the reason for a visit. It would be more efficient administratively to pay separately for drugs that are the reason for a visit through a single policy.
- The payment rates for drugs that are the reason for a visit can differ depending on whether the drug is paid separately under the pass-through or SPNPT policy. By statute, OPPS payment rates for pass-through drugs are set at ASP + 6 percent, while CMS has established a policy of setting the payment rates for SPNPT drugs obtained through the 340B Drug Pricing Program at ASP – 22.5 percent. Consequently, providers that obtain their OPPS drugs through the 340B program—which account for more than 50 percent of Medicare spending for separately payable drugs in the OPPS—have a financial incentive to use pass-through drugs rather than similar SPNPT drugs.

To improve the system of drug payment in the OPPS, the Commission recommends that the Congress modify the pass-through policy so that it includes only drugs that are supplies to a service and requires drugs to be clinically superior to other therapeutically similar drugs to be eligible for pass-through status. The Commission also recommends that the Secretary modify the SPNPT policy so that it is explicitly focused on drugs that are the reason for a visit, including those that are new to the market.

Mandated report: Assessing the impact of recent changes to Medicare's clinical laboratory fee schedule payment rates

In Chapter 9, the Commission responds to a mandate in the Further Consolidated Appropriations Act of 2020 requiring us to examine the methodology CMS used to set private payer–based payment rates for clinical laboratory fee schedule (CLFS) services and report on the least burdensome data collection process that would result

in a representative and statistically valid data sample of private market rates from all laboratory market segments, including independent, hospital, and physician-office laboratories.

Beginning in 2018, CMS set CLFS payment rates based on the rates private payers paid for laboratory tests. To establish these rates, a large number of laboratories were required to submit private-payer rate data to CMS for analysis. However, the Commission found that independent laboratories were overrepresented in the data, and hospital and physician-office laboratories were underrepresented.

The Commission concludes that collecting private-payer data using a survey could produce accurate estimates of payment rates for independent, hospital, and physician-office laboratories and substantially reduce the number of laboratories that would be required to report private-payer data. However, despite being technically feasible, incorporating private-payer rates from a representative sample of all types of laboratories may not be prudent. Medicare should set payment rates that ensure beneficiary access to high-quality laboratory tests, while maintaining incentives for laboratories to be efficient to make better use of taxpayers' and beneficiaries' resources. To do that, Medicare should ensure that payment rates are sufficient to cover the costs of relatively efficient laboratories and not increase rates solely to accommodate laboratories that receive high private-payer rates.

For most routine tests, policymakers should consider setting laboratory payment rates based on private-payer data from certain types of laboratories (e.g., independent laboratories) while excluding the data from others (e.g., hospital laboratories). Through the first two years of setting Medicare rates based on the private-payer data in which laboratories with lower private-payer rates were overrepresented, the use of laboratory tests remained relatively unchanged among Medicare FFS beneficiaries, suggesting stable access in spite of lower Medicare rates for many services. However, to the extent potential access issues arise, policymakers should consider implementing targeted payment adjustments instead of incorporating private-payer data from all laboratories that receive high private-payer rates. Targeted payment adjustments could help ensure access in particular circumstances without overpaying for all laboratory tests.

For many new, high-cost tests, basing Medicare rates on private-payer rates may present challenges. The

Commission's analyses suggest that private payers may not be able to negotiate lower prices for newer, more expensive laboratory tests in the same manner as they do for more routine tests, which could result in overly generous private-payer rates. In the future, the Commission will explore ways to improve how Medicare sets prices for new high-cost technologies, including certain pharmaceuticals, devices, and laboratory tests.

Mandated report: Relationship between clinician services and other Medicare services

In Chapter 10, the Commission completes the second of two reports mandated by the Medicare Access and CHIP Reauthorization Act of 2015 on the relationship between use of and expenditures for services provided by physicians and other health professionals (whom we refer to as "clinicians") and total service use and expenditures under Part A, Part B, and Part D of Medicare. This final report updates the analyses conducted for the initial report (submitted in June 2017) using more recent years of data. Because the legislation does not direct us to evaluate Medicare Part C (Medicare Advantage), we report on service use and spending for the Medicare FFS population only.

We found that unadjusted spending on clinician services as a share of Medicare unadjusted spending on all Part A and Part B services decreased from 2013 through 2019, indicating that spending on clinician services grew at a slower rate than spending on all Part A and Part B services. However, because unadjusted Medicare spending reflects various price and payment policies—which distorts any relationship between the use of clinician and other services—comparisons of service use are more meaningful than comparisons of spending when evaluating whether a given service is a complement to or a substitute for clinician services.

Therefore, we estimated per capita service use in 2013 and 2018 for geographic areas based on metropolitan statistical areas (MSAs). We estimated service use for each geographic area by adjusting Medicare program spending for regional differences in Medicare prices and for beneficiary differences in demographics and health status.

Our analysis of service use found the following:

- In aggregate, from 2013 to 2018, use of clinician services as a share of all Part A and Part B services slightly declined from 24.3 percent to 23.8 percent.

- Among geographic units in our analysis, there was a weak negative correlation between per capita use of clinician services and per capita use of nonclinician Part A and Part B services. This finding implies that increasing clinician services results in only a slight reduction in use of other Part A and Part B services.
- For each of the geographic areas in our analysis, we estimated the percentage change from 2013 to 2018 in per capita use of clinician services and per capita use of nonclinician Part A and Part B services (total Part A and Part B services net of clinician services). We found a weak (almost neutral) relationship between percentage change in clinician services and percentage change in nonclinician Part A and Part B services.

Our analysis also showed that from 2013 through 2018, Medicare unadjusted spending on services covered under the physician fee schedule remained flat while unadjusted spending on drugs covered under the Part D benefit grew by 26 percent. Nearly all the growth in drug spending was due to higher prices and launches of new drugs rather

than an increase in the number of prescriptions filled by beneficiaries, a change from the 2008 through 2013 period when spending growth mostly reflected an increase in the number of prescriptions filled.

For the subset of FFS beneficiaries who received their drug coverage through the Part D program, we used a regression-based method to examine the relationship between the rate of growth and level of clinician service use and drug use (drug spending adjusted for demographic characteristics and health status) across the MSA-based geographic areas. For changes in service use from 2013 through 2018, clinician service use was positively correlated with the area's change in drug use. However, the regression model explained only 8 percent of the variation, suggesting a weak relationship between the rates of growth in clinician service use and drug use. Consistent with our previous analysis, in 2018, there was a modest positive correlation between the levels of clinician service use and Part D drug use. This finding is not surprising, given that most prescriptions are written by clinicians during office visits. ■

C H A P T E R

1

Rebalancing Medicare Advantage benchmark policy

R E C O M M E N D A T I O N

- 1** The Congress should replace the current Medicare Advantage (MA) benchmark policy with a new MA benchmark policy that applies:
- a relatively equal blend of per capita local area fee-for-service (FFS) spending with price-standardized per capita national FFS spending;
 - a rebate of at least 75 percent;
 - a discount rate of at least 2 percent; and
 - the Commission's prior MA benchmark recommendations—using geographic markets as payment areas, using the FFS population with both Part A and Part B in benchmarks, and eliminating the current pre-Affordable Care Act cap on benchmarks.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

Rebalancing Medicare Advantage benchmark policy

Chapter summary

Over the 35-year history of private plan contracting in Medicare, benchmark policy has not attained an appropriate balance of benefits for enrollees, payment adequacy for plans, and responsible use of taxpayer dollars that fund the program. The current benchmarks that determine payments to Medicare Advantage (MA) plans have resulted in a very robust MA program with respect to plan participation, beneficiary enrollment, and the value of extra benefits provided to enrollees. But, in spite of the apparent relative efficiency of MA, no iteration of private plan contracting has yielded net aggregate savings for the Medicare program. The Commission estimates that Medicare currently spends 4 percent more for beneficiaries enrolled in MA than it spends for similar enrollees in traditional fee-for-service (FFS) Medicare.

Current MA benchmark policy uses a quartile system that generates geographic variation in plan payments, including plan subsidies of varying size in most geographic areas, that are not necessary for maintaining affordable supplemental coverage and that fail to capture savings for the Medicare program. The quartile-based benchmarks support higher payments to MA plans in areas where FFS spending is low; despite most plans bidding below FFS spending in these areas, payments are 9 percent higher than the areas' FFS spending, and MA enrollment is disproportionately higher than in many other areas. At the same time, the quartile system insufficiently

In this chapter

- Background
- Problems with the current benchmark policy
- Simulating an alternative benchmark policy
- Recommendation

leverages plan efficiency in areas where FFS spending is high; plans in these areas bid lower relative to their benchmarks and thus receive disproportionately more rebate dollars—the amount of which equals a share of the difference between a plan’s bid and its benchmark. Because the rebate dollars must be used to provide extra benefits, large rebates result in plans offering a disproportionate level of extra benefits. Moreover, as MA rebates increase, a smaller share of those rebates is used for cost-sharing and premium reductions—benefits that have more transparent value and provide an affordable alternative to Medigap coverage. In addition, current policy can create discontinuities in payment when counties have similar FFS spending but are assigned to a different payment quartile category (e.g., 100 percent of FFS spending vs. 107.5 percent of FFS spending) when the ranking of county spending changes from year to year.

The general decline in plan bids to levels well below FFS spending indicates that the Medicare program could share in plan efficiencies by making appropriate reductions in payment benchmarks. A better MA benchmark policy would rebalance benchmarks by allowing the Medicare program to capture some MA efficiencies—of particular importance given the projections of Medicare’s trust fund solvency and revenue issues—while mitigating possible deleterious impacts on plan participation and benefits. Since November 2019, the Commission has discussed the need for an alternative approach to setting MA benchmarks that would (1) bring benchmarks in the two lowest spending quartiles (those at 115 and 107.5 percent of FFS spending) closer to FFS spending now that most plans in those areas bid below FFS spending, (2) reduce benchmarks in some of the areas with the highest spending (those at 95 percent of FFS spending) that produce the highest share of rebates, and (3) not be overly disruptive to supplemental benefits. In this chapter, we recommend that the Congress implement a new MA benchmark policy that does the following:

- ***Uses a relatively equal blend of per capita local area FFS spending and standardized national FFS spending.*** The use of local area FFS spending in a portion of the blend sets the size of benchmarks on a continuous scale of local FFS spending. The use of standardized national spending reduces variation in local benchmarks to accommodate the availability of MA plans both in areas where FFS spending is high and in areas where it is low. Relative to current policy, benchmarks in low FFS spending areas would be aligned more closely with FFS spending but would remain above local FFS spending. On average, benchmarks in areas with high FFS spending would modestly decrease relative to current policy, allowing the program to capture additional efficiencies in areas where plan bids are lowest relative to their benchmarks.

- ***Uses a rebate of at least 75 percent.*** The rebate percentage (i.e., the share of the difference between the plan bid and benchmark) that is paid to plans for funding extra benefits would be decoupled from the MA quality bonus program and would increase for all plans, thereby creating greater incentives for plan efficiency. Under current policy, a plan's rebate percentage (typically 65 or 70 percent) is dependent on its star rating, but quality incentives are weak. The average plan rebate is currently 65 percent; this alternative would ensure overall rebates of at least 75 percent.
- ***Integrates a discount rate of at least 2 percent.*** A discount rate would reduce the local–national blended spending amounts, explicitly integrating the efficiency of MA into the benchmark calculation. A discount rate of at least 2 percent would help ensure that the Medicare program shares in the efficiencies generated by MA.
- ***Applies the Commission's prior MA benchmark recommendations—using geographic markets as payment areas, using the FFS population with both Part A and Part B in benchmarks, and eliminating the current pre-Affordable Care Act cap on benchmarks.*** The Commission has previously recommended improvements to MA benchmarks that would also help ensure consistency and predictability of benchmarks. The Commission's recommended approach would use geographic markets (e.g., multicounty areas) as payment areas to help ensure stability in benchmarks, calculate benchmarks using the FFS population with both Part A and Part B coverage to ensure comparability with the MA-eligible population, and eliminate caps on benchmarks that disproportionately affect areas where FFS spending is low.

We conducted simulations of our recommended benchmark policy, comparing it with existing policy. The simulations, using 2020 MA bid and FFS benchmark data, demonstrate that CMS could feasibly implement our recommended policy with likely little impact on plan participation. In our simulations, the 50/50 blend of local and national FFS spending reduced benchmarks in the two lowest spending quartiles by an average of 4 percentage points to 5 percentage points while reducing benchmarks by an average of 1 percentage point in the highest spending quartiles where plans have disproportionately higher rebates. The vast majority of MA markets had an average bid far below their blended benchmark level. Our simulations indicate that applying a 2 percent discount rate and a 75 percent rebate would generate about 2 percentage points in savings to the Medicare program relative to current policy (i.e., relative to current base benchmarks both with and without quality bonus payments). Our simulations also indicate that, under a benchmark policy that includes a 2 percent discount rate and assumes no quality

bonus payments to plans, the relative disruption to beneficiary access to MA plans that offer lower cost sharing and reduced premiums would likely be modest.

The Commission's recommendation would immediately address problems created by the current MA benchmarks and produce savings for the Medicare program. In the future, the Commission may compare quality between MA and FFS Medicare and examine the potential for a substantial overhaul of the MA payment system, such as using alternative methods to set payments to plans and standardizing MA plan options. ■

Background

Medicare beneficiaries have the option to receive benefits from private plans rather than from the traditional fee-for-service (FFS) program. In 2020, the Medicare Advantage (MA) program included 4,234 plan options offered by 185 organizations, enrolled over 24 million beneficiaries (43 percent of all Medicare beneficiaries with Part A and Part B coverage), and paid participating plans an estimated \$317 billion (not including Part D drug plan payments). The Commission has long supported the inclusion of private plans in the Medicare program because they are thought to be more efficient than traditional Medicare, and—along with alternative payment models—could help improve the efficiency of the entire Medicare program. Plans often have flexibility in care-management techniques and payment methods, including the ability to negotiate with individual providers, and can steer beneficiaries to more efficient providers by limiting provider networks. By contrast, traditional FFS Medicare has lower administrative costs and offers beneficiaries an unconstrained choice of health care providers, but it often lacks incentives to coordinate care and is limited in its ability to make care delivery more efficient. However, over the 35-year history of private plan contracting in Medicare, although risk adjustment has improved payment accuracy, benchmark policy has not attained an appropriate balance of benefits for enrollees, payment adequacy for plans, or responsible use of taxpayer dollars that fund the program (see text box on the history of MA payment policy, pp. 8–9).

How Medicare pays MA plans

In contrast to traditional FFS Medicare's fixed rates per service paid to providers, Medicare pays MA plans a fixed rate for each enrolled beneficiary. Plan payment rates are determined by the MA plan bid—which represents the dollar amount that the plan estimates will cover the Part A and Part B benefit package for a beneficiary of average health status—and the benchmark for the county in which the beneficiary resides, which is the maximum amount of Medicare payment set by law for an MA plan to provide Part A and Part B benefits. If a plan's normalized bid is above the normalized benchmark (that is, the benchmark for a person of average risk), the plan's MA base payment rate is set at the benchmark and enrollees have to pay a premium (in addition to the required Part B premium) equal to the difference. If a plan's bid is below the benchmark, its payment rate is its bid plus a share (between 50 percent and 70 percent, depending on a plan's

quality rating) of the difference between the plan's bid and the benchmark. For this computation, the comparison is between an individual plan's actual bid for its expected enrolled population (which can span multiple counties) and a plan-specific risk-adjusted benchmark (weighted by the plan's projected county-level enrollment in its service area). The added payment based on the difference between the bid and the benchmark is referred to as the rebate. Plans must use the rebate to provide additional benefits to enrollees in the form of lower cost sharing, lower premiums, or supplemental benefits. Plans can also devote some of the rebate to administration costs and margins. Plans may also choose to include additional supplemental benefits not financed by the rebate and charge premiums to cover those additional benefits.

Determining MA payment rates

Under the Affordable Care Act of 2010 (ACA), each county's benchmark, excluding quality bonuses, equals a certain share of the projected average per capita FFS Medicare spending for the county's beneficiaries. County benchmarks are established by ranking counties based on a county's level of per capita FFS spending. Benchmarks are set at 115 percent of county FFS spending for the quartile of counties with the lowest FFS spending, 107.5 percent and 100 percent for counties in the next two quartiles of FFS spending, and 95 percent for counties in the quartile with the highest FFS spending.

Under the quality bonus program, benchmarks are increased by 5 percentage points (or 10 percentage points for qualifying counties, known as a “double bonus”) for plans with a star rating of 4 or more stars, or by 3.5 percentage points for new plans.^{1,2} For plans bidding below the benchmark, between 50 percent and 70 percent of the difference (depending on the plan's star rating) must be used to provide extra benefits to plan enrollees.

The ACA established a cap on each county's benchmark based on either the county's FFS spending or its historical spending trend, whichever is greater.³ In 2016, benchmark caps limited quality bonus increases in 45 percent of counties (representing 19 percent of MA enrollment) and limited the base benchmark (applied for plans not entitled to a quality bonus increase) in 24 percent of counties (representing 6 percent of MA enrollment) (Medicare Payment Advisory Commission 2016).

Medicare payments to MA plans are adjusted using an enrollee's risk score, which accounts for differences in

A brief history of Medicare Advantage payment policy

The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) introduced the option of allowing private plans to contract with Medicare on a full-risk basis and established a payment ceiling at 95 percent of the amount the federal government would have paid for the enrollees under fee-for-service (FFS) Medicare, which is estimated by the adjusted average per capita cost (AAPCC) (Langwell and Hadley 1986).^{4,5} All plans were required to cover the full Medicare benefit. Cost sharing for the Medicare benefit package remained the responsibility of enrollees (an amount equal to the national average value of Medicare cost sharing for each plan), but plans could charge a premium in lieu of cost sharing at the point of service to obtain the cost-sharing revenue. If plans calculated an expected cost of providing the Medicare benefit that was less than 95 percent of the AAPCC, they were required to convert this difference into additional benefits or reduced cost sharing for beneficiaries, defer use of the surplus amount to a future year, or accept a payment lower than 95 percent of the AAPCC (or any combination of the three options).⁶ Payments were set at 95 percent of FFS Medicare because the expectation was that private plans (specifically, the HMO model) would yield savings of 5 percent or more for the Medicare program compared with the amount the program would have spent under FFS Medicare.

Although the program increased coverage options for beneficiaries, with plans offering more generous

benefits and reduced cost sharing, private plans did not realize savings for the Medicare program because there was no adjustment for health status in AAPCC payments (McGuire et al. 2011, Zarabozo 2000). Research evaluating the program's early years demonstrated that favorable selection of enrollees (caused by plans avoiding counties with high hospital spending and marketing to healthy beneficiaries and by beneficiaries choosing monthly to enroll in or disenroll from a plan, with sicker beneficiaries preferring FFS Medicare, among other reasons) led to Medicare spending on private plans in 1989 that was 5.7 percent higher than spending would have been under FFS Medicare (Brown et al. 1993, Medicare Payment Advisory Commission 1998, Newhouse 2002). As the program grew, favorable selection persisted; a study in the mid-1990s found that payments to private plans were 7 percent above the amount FFS Medicare would have spent for comparable beneficiaries (Riley et al. 1996). This and other studies led to the conclusion that proper risk adjustment was needed to pay plans more appropriately (Medicare Payment Advisory Commission 2000, Newhouse et al. 1989).

The Balanced Budget Act (BBA) of 1997 required Medicare to improve risk adjustment for payments to private plans and mandated the collection of diagnoses from inpatient claims.⁷ Initially, a small share of payment to plans was based on a new risk adjustment model using principal inpatient diagnoses. The

(continued next page)

expected medical expenditures based on demographic information (e.g., age, sex, Medicaid enrollment, and disability status) and certain diagnoses. Higher risk scores generate higher payments because beneficiaries with high risk scores are expected to have higher expenditures and vice versa.⁸ Risk adjustment, coupled with policies establishing a uniform single annual election period for all plans and eligible beneficiaries and locking in MA enrollees for the calendar year (with limited exceptions), has generally reduced favorable selection for MA plans.

However, favorable selection is not entirely addressed by enrollee risk scores. For example, preferences against narrow provider networks among the most costly Medicare beneficiaries may result in healthier beneficiaries electing to enroll in MA and some MA enrollees switching to FFS Medicare when their health significantly declines (Jacobson et al. 2019b, McWilliams et al. 2012, Newhouse et al. 2012). After beneficiaries experience health declines, the switch from MA to FFS Medicare disproportionately occurs despite these beneficiaries likely

A brief history of Medicare Advantage payment policy (cont.)

Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) expanded risk adjustment to include the use of diagnoses from ambulatory settings, and Medicare began phasing in a risk adjustment model using diagnoses collected from the claims submitted by hospitals (inpatient and outpatient) and physician office visits in 2004.

Although the BBA of 1997 initiated improvements in risk adjustment, the law also delinked payments to private plans from FFS Medicare spending by establishing a national floor payment amount (generally an increase in payment for rural counties) that increased annually and a 2 percent annual increase in each non-floor county's payment rate.⁹ The modest 2 percent increase for non-floor counties was generally smaller than increases in prior years and put pressure on plans' finances, leading to fewer extra benefits, higher cost sharing, and a reduction in overall private plan enrollment between 1999 and 2002 from 6.3 million to 4.9 million as plans left the program. Payment reforms in 1999 and 2000 increased payments for all plans (and created a higher floor payment for urban counties), but only slowed the decline of private plan participation and enrollment in non-floor counties.

The Medicare Modernization Act of 2003 (MMA) established a new system of paying private plans (under the name Medicare Advantage (MA)) based on plan bids and county benchmarks, and the legislation required that plans provide extra benefits financed by

a share (75 percent) of the difference for plans that bid below their benchmark. The Medicare program's payment to each plan was either equal to the plan's bid plus the extra benefit amount for plans bidding below the benchmark or equal to the benchmark for plans bidding above the benchmark (and plans were required to charge beneficiaries a premium to finance the full cost of the Medicare benefit package).¹⁰ Under this framework, the MMA substantially increased payments to MA plans by setting initial benchmarks at 100 percent of FFS spending or higher and establishing annual benchmark increases equal to or greater than FFS Medicare's national growth rate.¹¹ The ratchet effect of this policy increased payments to MA plans to 14 percent above FFS in 2009 (benchmarks were 18 percent above FFS), the level at which payments roughly remained until the Affordable Care Act of 2010 (ACA) benchmark policy began implementation in 2012 (Medicare Payment Advisory Commission 2009).

The ACA policy revisions kept the basic structure of plan bids, benchmarks, and extra benefits, but significantly revised how benchmarks were established. The ACA benchmark policy phase-in began in 2012 and reduced the average benchmark over several years to about 103 percent of FFS spending in the aggregate (108 percent after including benchmark increases resulting from quality bonuses), the level at which benchmarks have remained in recent years. ■

facing substantially higher Medigap premiums relative to beneficiaries who have never enrolled in MA. Because only four states require guaranteed issue for Medigap policies, most beneficiaries who switch from MA to FFS are subject to medical underwriting and can be denied a Medigap policy (Boccuti et al. 2018). In addition, the risk adjustment model's reliance on diagnosis codes creates a financial incentive for providers in MA plans to document diagnosis codes more thoroughly than do providers in FFS Medicare. Because the risk adjustment model is based on

FFS Medicare data, more thorough diagnostic coding in MA (greater "coding intensity") generates greater payment for MA plans than FFS Medicare would have spent for the same beneficiary (3 percentage points more payment than FFS in 2019).¹² Overall, policies under the ACA improved payment accuracy and addressed a significant share of the payment excesses generated under prior laws; however, with the ACA policies fully phased in, MA payments continue to be above expected FFS spending (see text box on aggregate Medicare payments to MA plans, p. 10).

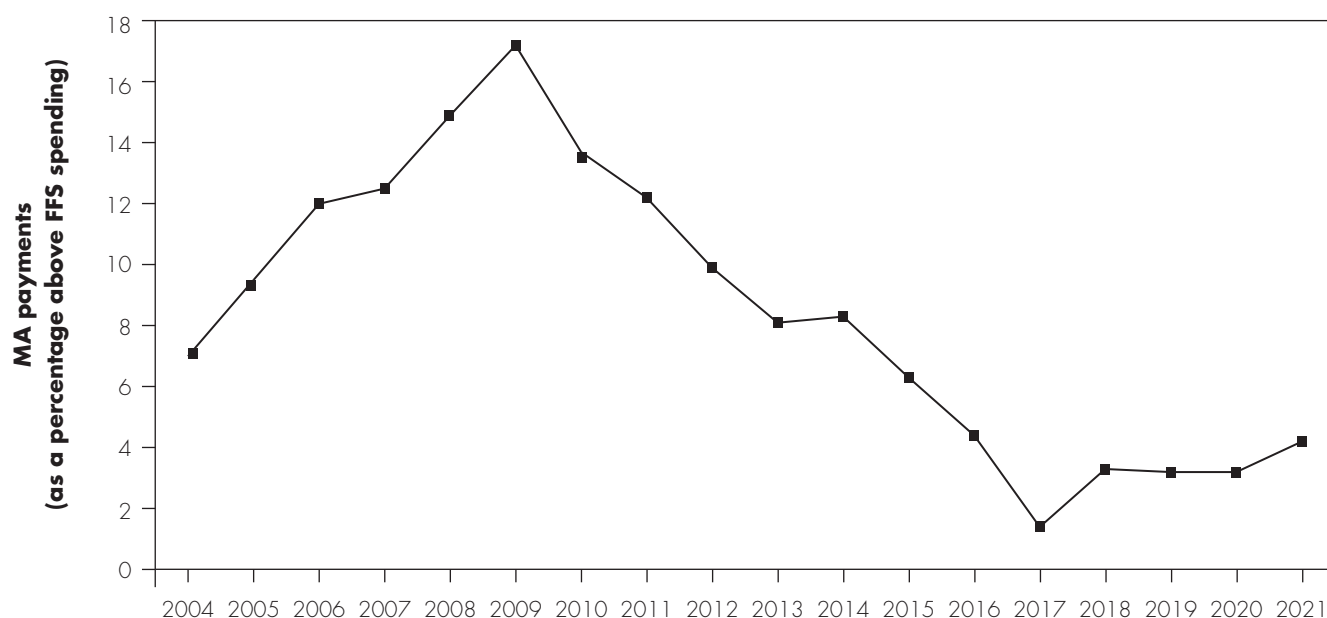
Aggregate Medicare payments to Medicare Advantage plans have never been lower than fee-for-service Medicare spending

The Commission's review of payments to private plans suggests that over a 35-year history, the many iterations of full-risk contracting with private plans have never yielded aggregate savings for the Medicare program. Throughout the history of Medicare managed care, the program has paid more—sometimes much more—than it would have paid for beneficiaries to have remained in fee-for-service (FFS) Medicare. Evaluations of payment rates to private plans under Medicare demonstrations occurring before

1985 found that payment rates were 15 percent to 33 percent higher than FFS Medicare (Langwell and Hadley 1990). Between 1985 and 2004, risk adjustment was inadequate and led to overall payments to private plans that were higher than comparable FFS Medicare spending (5 percent to 7 percent higher in the late 1980s and through the mid-1990s). Figure 1-1 shows that since 2004, aggregate payments to Medicare Advantage plans have been above the amount FFS Medicare would have spent for similar beneficiaries. ■

FIGURE 1-1

MA plans have not realized aggregate savings for Medicare, 2004–2021



Note: MA (Medicare Advantage), FFS (fee-for-service). Benchmark increases under the quality bonus demonstration applied from 2012 through 2014 and under the quality bonus program applied starting in 2015. The figure reflects the Commission's estimates of the impact of coding intensity, beginning in 2007. We assume, conservatively, that the coding intensity impact for 2020 and 2021 was the same as for 2019 (the most recent year of data available). The Commission uses the figures for FFS per beneficiary spending that CMS's Office of the Actuary generates to determine the MA benchmarks that plans use when submitting bids. Those FFS spending figures are calculated by summing (1) risk-standardized Part A FFS monthly spending for all Part A enrollees and (2) risk-standardized Part B FFS monthly spending for all Part B enrollees. This method for calculating FFS spending includes all FFS beneficiaries, including those who are enrolled only in Part A or only in Part B, and thus is not perfectly comparable with the MA population, who have both Part A and Part B. We estimated that calculating 2017 FFS spending only for enrollees with both Part A and Part B would yield a result that is about 1 percent higher than the estimate of spending for all FFS enrollees. Assuming that an increase to FFS spending (and benchmarks) would not increase plan bids, comparing MA payments with spending for FFS enrollees with both Part A and Part B would lower the spending estimate about 1 percentage point.

Source: MedPAC reports to the Congress 2006 through 2021.

MA plan availability, enrollment, and extra benefit availability continue to increase

As the ACA changes were phased in, many predicted that the MA program would suffer a major contraction because reductions in plan payments would lead to fewer benefits for enrollees, lower MA enrollment, and lower levels of plan participation. Instead, plans found ways to reduce costs and lower bids by more than enough to keep pace with decreasing benchmarks, leading to increases in plan offerings, higher levels of extra benefits provided to enrollees, and substantial MA enrollment growth in recent years.

Since 2017, with the ACA's changes fully implemented, the share of eligible Medicare beneficiaries (those with Part A and Part B coverage) in MA has grown from 35 percent to 43 percent in 2020.¹³ Between 2016 and 2021, the average number of plan choices grew from 18 to 32; the share of Medicare beneficiaries with a zero-premium plan option grew from 81 percent to 96 percent; and the annual value of extra benefits for each enrollee grew by approximately 75 percent, from \$972 to \$1,700 per enrollee.

Our estimates of plan payments do not take into account the impact of the coronavirus pandemic, but given the prospective nature of MA payments, we do not anticipate the pandemic having a substantial effect on our estimates. For our simulations, we use CMS's estimate of 2020 FFS spending, which uses data through 2018 as the basis for 2020 MA benchmarks, bids, and payments. This estimate also represents the FFS spending levels assumed by plans when they submitted bids for 2020 in June of 2019. We do not yet know the full effect of the pandemic on beneficiary spending and risk scores. However, the 2021 record low bid levels relative to FFS spending, record high plan rebates, and wider availability of zero-premium plans indicate that plans anticipate continued ability to offer bids far below payment benchmarks.

For 2021, we estimate that payments to MA plans are about 104 percent of what FFS Medicare would have spent to cover the same enrollees.¹⁴ Despite the higher average payment relative to FFS Medicare, the average plan bid is 87 percent of FFS Medicare spending; moreover, about 91 percent of MA plans, accounting for 87 percent of MA enrollment, have bids below the amount FFS Medicare would spend for similar beneficiaries. These figures demonstrate that MA plans have the ability to provide the Medicare benefit more efficiently than FFS Medicare; however, Medicare continues to pay more for MA beneficiaries because of payment policies and other

aspects of the MA program. The Commission has made recommendations to improve several of these policies (see text box on prior recommendations, pp. 30–32), but additional improvements to the current benchmark system are needed.

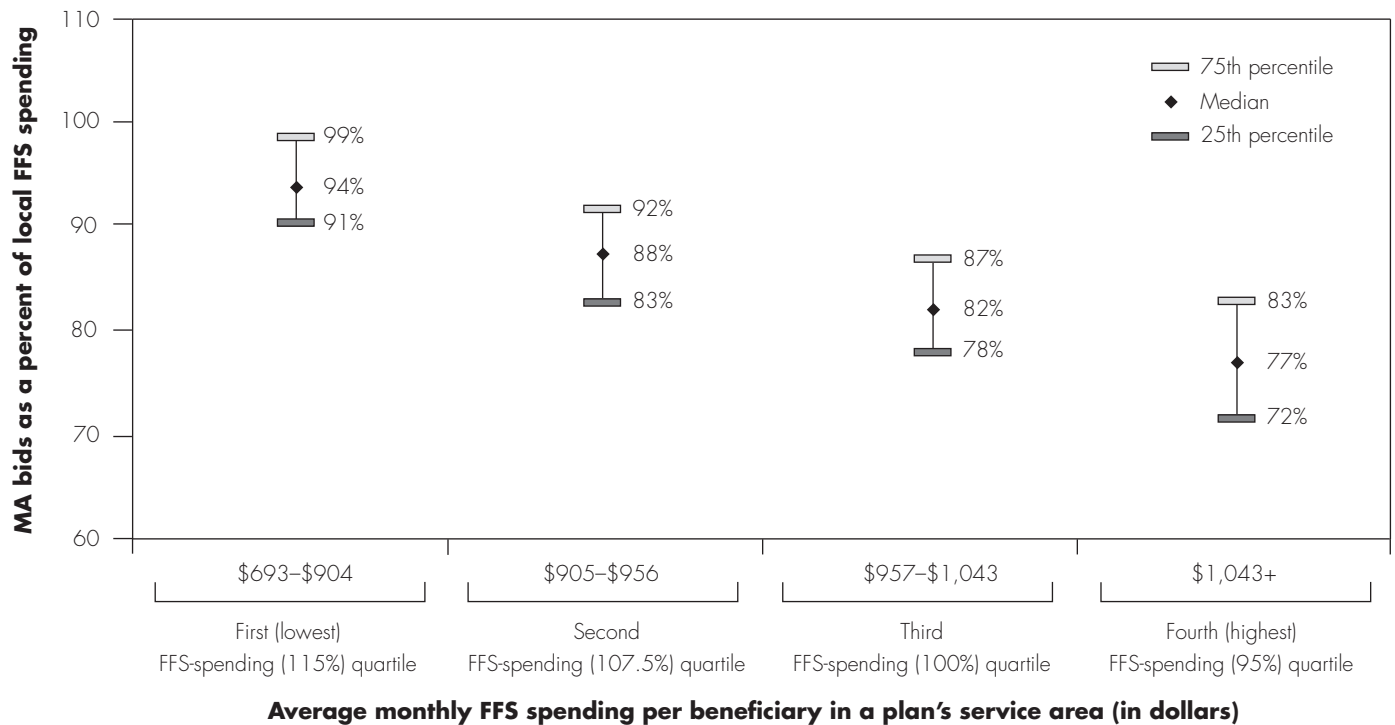
Problems with the current benchmark policy

Current MA benchmark policy uses a quartile system that generates variation in payments to plans and extra benefits offered to enrollees, but it is out of balance with intended policy goals to maintain wide availability of plans, establish predictable and stable payment rates, support access to valuable extra benefits across geographic areas, and appropriately allocate savings from MA plan efficiency to beneficiaries and the Medicare program.

Higher benchmarks and payments in areas with low FFS spending attract a disproportionate share of MA enrollees

The benchmark policy seeks to create similar incentives to enroll beneficiaries across all areas by setting higher benchmarks in areas with low FFS spending to encourage plan offerings and enrollment and setting lower benchmarks in high FFS spending areas to offset higher Medicare payments. However, despite most plans bidding below FFS, current benchmarks support payments (including quality bonuses) that are 9 percent higher than FFS spending in the areas with the lowest FFS spending, which has attracted a disproportionately high share of MA enrollees.

Currently, MA enrollment in areas in the lowest FFS spending quartile (and to a lesser extent in the second-lowest quartile) increases costs for the Medicare program, which both weakens the Hospital Insurance Trust Fund and produces taxpayer, state, and beneficiary costs under Part B (which is financed by general revenues and Part B premiums that all Medicare beneficiaries are responsible for paying). The quartile system enacted by the ACA set higher benchmarks in low-spending areas to ensure broad access to MA plans. But the benchmark level in the areas with the lowest FFS spending (115 percent of FFS) is likely higher than needed to induce plan participation in most areas in this quartile. On average, MA bids in the lowest spending quartile have decreased in recent years relative to FFS spending, declining between 2018

**FIGURE
1-2****Most plans in the lowest spending areas bid below estimated FFS spending, 2021**

Note: FFS (fee-for-service), MA (Medicare Advantage). This figure is based on 3,797 plan bids and excludes employer group plans, special needs plans, and plans in the territories. Benchmark percentages within each quartile indicate benchmark quartile factors that are applied to local FFS spending (e.g., counties in the 115 percent quartile have base benchmarks 15 percent higher than local FFS spending). Estimated FFS spending levels in the figure are not affected by the quality bonus payments to plans. FFS spending uses the entire Medicare population (including those who are enrolled only in Part A or only in Part B), standardizes for average risk, geographically aligns with MA plan enrollment, and risk adjusts using MA plan risk scores. However, percentages do not account for unaddressed coding intensity differences, which increased overall MA payments by 3 percentage points in 2019. In addition, the FFS spending denominator used in the figure includes all Part A and Part B spending, but MA enrollees must be enrolled in both Part A and Part B. Comparing plan bids with spending for FFS enrollees with both Part A and Part B would likely decrease the percentages in the figure.

Source: MedPAC analysis of MA bid and rate data, 2021.

and 2021 from 101 percent of FFS to 95 percent of FFS. Most plans in the lowest spending areas now bid below 100 percent of FFS spending (Figure 1-2). In 2021, payments to plans (excluding plans in Puerto Rico) whose enrollment was mainly in counties in the lowest spending quartile were paid about 105 percent of average FFS spending in the plans' service areas before quality bonuses and paid 109 percent of FFS after benchmarks were increased for quality bonuses (data not shown).

In recent years, the distribution of MA enrollment by quartile has shifted toward the lowest spending quartile where payment benchmarks tend to be far above local FFS spending (Table 1-1). Among nonemployer plans in

2021, plan bids project that 28 percent of MA enrollees will reside in the quartile areas with the lowest spending, up from 26 percent in 2020.¹⁵ In contrast, 22 percent of projected MA enrollees now reside in the quartile areas with the highest spending (down from 24 percent in 2020), where payments tend to be below local FFS spending. As the Commission noted in 2018, the larger share of Medicare beneficiaries residing in the quartile areas with the lowest spending at least partially explains the shift in enrollment toward these areas (Medicare Payment Advisory Commission 2018). In 2018, after the counties were reranked by FFS spending to create quartiles, the share of Medicare beneficiaries living in the 786 lowest spending counties was 22 percent,

**TABLE
1-1**

The share of MA enrollment in the lowest FFS spending quartile has increased

Quartile of FFS spending	Share of projected MA enrollment, by quartile	
	2020	2021
Lowest (benchmark 115% of FFS spending)	26%	28%
Second (benchmark 107.5% of FFS spending)	23	22
Third (benchmark 100% of FFS spending)	27	28
Highest (benchmark 95% of FFS spending)	24	22

Note: MA (Medicare Advantage), FFS (fee-for-service). Each percentage represents MA quartile enrollment (as projected in plan bid data) as a share of MA enrollment among plans that submitted bids. Data exclude employer group waiver plans, which do not submit bids. Actual payment factors in each quartile use an average of the two most recent quartiles (e.g., a county that moves from the 95 percent quartile to the 100 percent quartile will have a payment factor of 97.5).

Source: MedPAC analysis of MA bid and rate data, 2020–2021.

compared with 16 percent of Medicare beneficiaries living in the 786 lowest spending counties in 2012 (data not shown). MA penetration in the lowest spending quartile is also relatively high. In 2020, 44 percent of Medicare beneficiaries living in the lowest spending quartile of counties chose to enroll in MA plans, compared with a national average of 39 percent.¹⁶ At the same time, MA spending in areas with high FFS spending (the 95 percent quartile) has been restrained without any adverse effect on MA enrollment (or the number of plans available to beneficiaries). In 2020, plans whose enrollment was mainly in counties in the highest spending quartile were paid just over 92 percent of the average FFS spending in the plans' service areas. Even though the Medicare program achieves net savings from MA at the 95 percent quartile, payments to plans were high enough in 2020 for plans to offer benefits that attracted 37 percent of Medicare beneficiaries living in those areas.

Quartile structure can create large differences in benchmarks despite small differences in county FFS spending

The quartile structure creates discontinuities in benchmarks, contributing to changes in MA payment rates that can be unpredictable or lack stability over time. The quartile factor applied to local FFS spending jumps by 7.5 percent or 5 percent at three points in the distribution of all counties, ranked by local FFS spending. Notwithstanding policies that mitigate discontinuities directly (e.g., the quartile factor is an average of the last

two years) and indirectly (e.g., the benchmarks that exceed pre-ACA levels of spending are capped), large differences in the quartile factors—despite small differences in FFS spending—can contribute to large differences in benchmarks. Table 1-2 (p. 14) illustrates an example of this inconsistency. County A has an average FFS spending of \$847.98 and County B averages \$847.99. Because neither of them switched quartiles in the last year, County A's benchmark is set at 115 percent of FFS spending and County B's benchmark is set at 107.5 percent of the almost identical FFS spending.¹⁷ Despite only a one-percent difference in FFS spending, the quartiles produce a \$63.59 difference in benchmarks. In fact, County A's \$975.18 benchmark is among the highest within the 115 percent quartile. Examples of similar discontinuities can occur between each quartile. Such discontinuities, and the resulting instability in payment rates over time, could be eliminated by using a continuous function to translate local FFS spending in benchmarks.

The current benchmark policy creates variation in the availability of extra benefits for beneficiaries

The large difference between bids and benchmarks has led to total rebate dollars that are the highest in the program's history—increasing between 2016 and 2021 from 8 percent to 14 percent of MA payment—but beneficiaries' access to rebate-funded extra benefits varies across the country. In the highest FFS spending areas, plan bids, on

**TABLE
1-2**

Illustrative example of how quartile factors create discontinuities in MA benchmarks relative to FFS spending, 2020

County	FFS spending	Quartile factor	MA benchmark
A	\$847.98	115%	\$975.18
B	\$847.99	107.5	\$911.59

Note: MA (Medicare Advantage), FFS (fee-for-service). MA benchmarks (excluding quality bonuses) are the product of FFS spending and the quartile factor. Current law requires quartile factors to be calculated based on a ranking of projected FFS spending in the prior year (in this case, 2019).

Source: MedPAC analysis of MA rate data, 2020.

average, are lower relative to benchmarks than among plans in lower FFS spending areas (Table 1-3). Because the difference between a plan's bid and its benchmark tends to be greater in high FFS spending areas, plans in those areas must offer more extra benefits (or benefits of greater value) relative to plans in low FFS spending areas. This relatively large difference between plan bids and benchmarks suggests that benchmarks in the highest spending quartile could be reduced, making access to extra benefits more similar for beneficiaries in all geographic areas, while still allowing plans to provide substantial extra benefits to beneficiaries.

Under current benchmark policy, Medicare finances MA supplemental benefits at levels that eliminate potential program savings

As benchmarks decreased under the ACA, plans found ways to reduce costs and lower their bids, but overall savings to the Medicare program have been elusive. In 2021, MA plans bid an average of 87 percent of FFS spending—an all-time low—demonstrating that MA plans can provide the Medicare benefit more efficiently than FFS Medicare. Benchmark and rebate policies determine how these plan efficiencies are allocated to enrollees in the form of extra benefits or to the Medicare program as savings relative to expected Medicare FFS spending. However, the current policy is unbalanced. Because the average benchmark is well above FFS spending, rebates that plans receive result in overall spending above expected FFS spending. The rebate dollars that plans receive from the Medicare program are used to finance extra benefits. While plan enrollees are the recipients of these substantial extra benefits, plans also benefit from additional administrative fees and profit that they load onto most extra benefits.

Benchmark policy largely determines the imbalance of plan efficiency, rebates, and lack of overall program savings. After the current (ACA) benchmark policy was fully phased in, plans continued to lower their bids, yet overall benchmarks have remained at 107 percent to 108 percent of FFS spending for the last four years. Unsurprisingly, the value of extra benefits has reached a record high in each of the last five years. In 2021, extra benefits account for 14 percent of all payments to MA plans. However, the high level of MA benchmarks continues to prevent plan efficiency from translating into aggregate Medicare program savings. Changes to the current benchmark structure are necessary to enable the program to share in savings from MA efficiencies.

As the dollar value of extra benefits has grown, a related concern is the limited ability to assess the value of the increasing level of Medicare program spending on extra benefits. The value to beneficiaries of reductions in cost sharing and premiums is clear because these benefits are akin to discounts for service users (cost-sharing reductions) or cash savings (premium reductions). However, the share of rebates allocated to these extra benefits has declined overall—leaving a greater share of rebates for other supplemental benefits where there is more uncertainty about utilization or efficacy.

Historically, the greatest amount of extra benefit funding has gone toward cost-sharing reductions, where plans reduce coinsurance, copayments, and deductibles from FFS levels. Medicare beneficiaries, who are often on fixed incomes, may find this benefit attractive as MA plans often have lower out-of-pocket expenses (cost sharing plus premiums) than Medigap coverage (Mike et al. 2019).¹⁸ (Some beneficiaries may receive reduced cost

**TABLE
1-3****Plans in the areas with highest spending bid lower relative to their benchmarks, creating geographic differences in rebate dollars****MA bids as a share of benchmarks, by quartile**

Quartile of FFS spending	2018	2019	2020	2021
Lowest (benchmark 115% of FFS spending)	86%	85%	83%	82%
Second (benchmark 107.5% of FFS spending)	86	85	83	81
Third (benchmark 100% of FFS spending)	84	83	82	80
Highest (benchmark 95% of FFS spending)	80	79	79	78

Note: MA (Medicare Advantage), FFS (fee-for-service). CMS assigns quartiles at the county level, but a plan's service area includes one or more counties. Therefore, quartiles in the table are assigned using the average monthly FFS spending per beneficiary in a plan's entire service area. Plans that bid lower relative to their benchmarks offer more extra benefits (or benefits of greater value) than plans that bid higher relative to their benchmarks. Data exclude employer group waiver plans and special needs plans.

Source: MedPAC analysis of MA bid and rate data, 2018–2021.

sharing through an employer-sponsored plan or through Medicaid.) However, as MA rebate levels have increased, plans have allocated smaller shares of rebate dollars toward reducing beneficiary cost sharing (Table 1-4). In 2021, MA plans allocated 46 percent of MA rebate dollars toward cost sharing—down from 52 percent in 2018. This trend suggests that many MA plans do not need or want to allocate additional rebate dollars for this benefit out of concern that reductions in cost sharing that are too generous may induce demand for additional, potentially unnecessary services. Such induced demand has been found to occur in FFS when beneficiaries have

first-dollar Medigap coverage (i.e., no cost sharing for any Medicare services) (Medicare Payment Advisory Commission 2012). If a plan has allocated the maximum amount to reduced cost sharing that the plan is willing to allocate, the plan needs only to allocate additional rebate funding to keep up with medical inflation. From 2020 to 2021, the growth rate in per member cost-sharing rebate dollars (5 percent) was nearly identical to the expected per capita growth rate in FFS spending (5.7 percent; data not shown). This leveling off of cost-sharing rebate dollars suggests that, on average, plans are no longer increasing the actuarial value of cost-sharing reductions.

**TABLE
1-4****MA plans have used a decreasing share of rebate dollars on beneficiary cost-sharing and premium reductions****Share of rebate dollars allocated by MA plans**

MA extra benefit	2018	2019	2020	2021
Cost-sharing reductions	52%	51%	49%	46%
Part D premium buydown	16	15	13	15
Part B premium buydown	1	1	2	2
Other supplemental benefits	30	33	36	38

Note: MA (Medicare Advantage). Each percentage represents the share of MA rebate dollars allocated toward each type of extra benefit in plan bids. Data exclude employer group waiver plans, special needs plans, and plans that serve U.S. territories. Totals may not sum due to rounding. Between 2018 and 2021, average rebates per month increased from \$95 to \$140.

Source: MedPAC analysis of MA bid and rate data, 2018–2021.

In addition, MA plans have not devoted a larger share of rebate dollars to direct premium reductions for MA enrollees. Between 2018 and 2021, the plan share of rebate dollars for premium reductions has remained roughly constant, from 16 percent to 15 percent for Part D and from 1 percent to 2 percent during the same period for Part B. Rebates are rarely used to lower Part B premiums, which provides a financial benefit to all enrollees in a given plan (as compared with benefits that only some enrollees use, such as in-network dental care or a foreign travel benefit). Because a premium-reduction benefit is given—not just offered—to all enrollees, it generally costs plans more per enrollee to provide. In addition, MA plans are not permitted to allocate administrative costs and profit toward premium reduction.^{19,20} Plans therefore have a financial disincentive to offer this benefit. Only 4 percent of 2021 MA general enrollment was projected to be in these premium-reduction plans (Figure 1-3).²¹

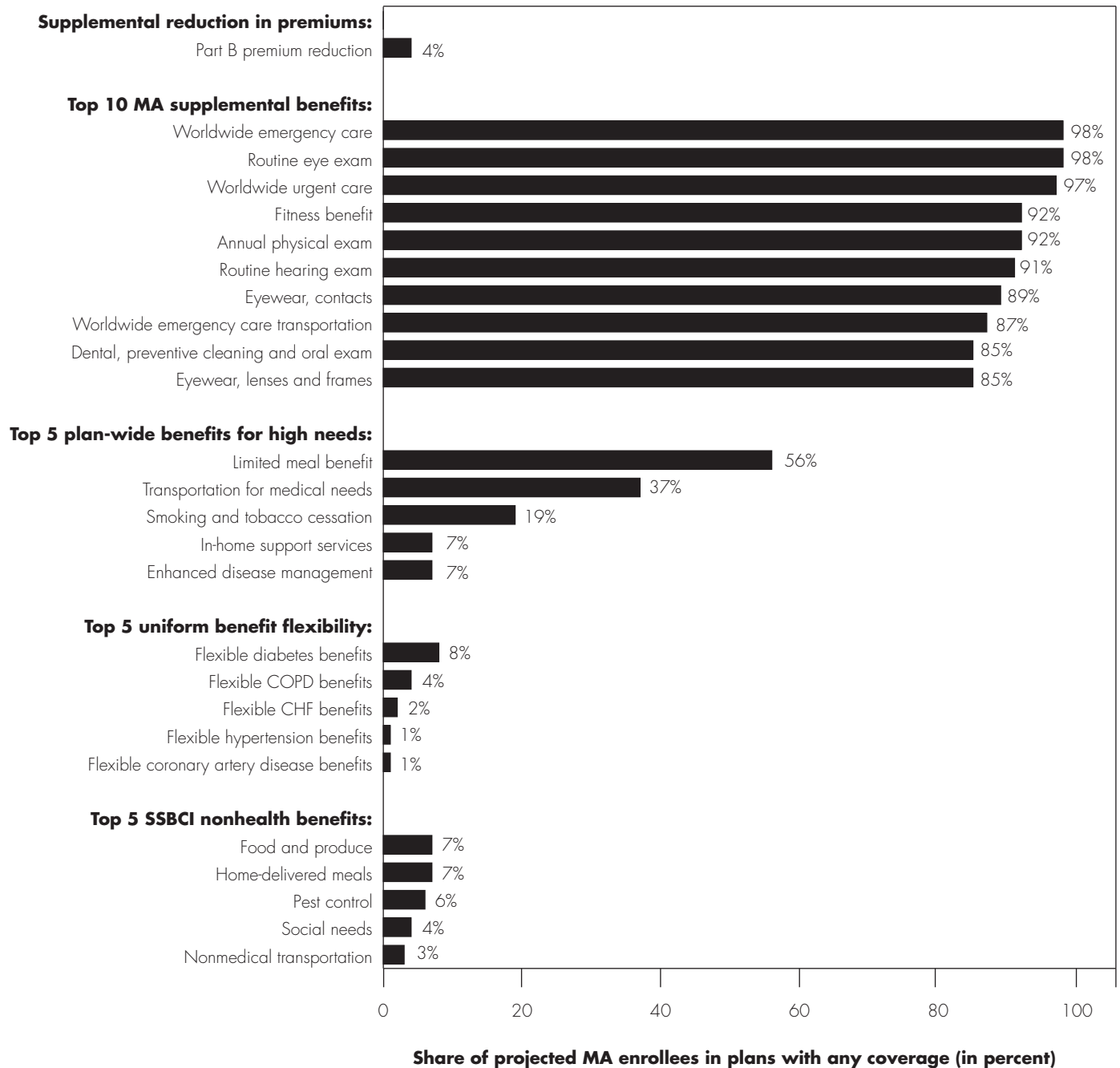
MA plans have allocated an increasing share of rebate dollars toward coverage of other MA supplemental benefits, and these benefits could be used to address issues related to health equity. However, the benefits that plans most commonly offer focus on the broader MA population rather than populations that have the greatest social or medical needs (Figure 1-3). We examined the 10 supplemental benefits offered most often for general enrollment MA plans (i.e., excluding special needs plans (SNPs) and employer plans). Many of the most commonly offered supplemental benefits appear to be tailored toward relatively healthy beneficiaries. Four of the top five most common supplemental benefits addressed coverage for international travel, fitness benefits that typically consist of a gym membership, or coverage for an annual physical exam, the efficacy of which has been questioned (Prochazka and Caverly 2013, Society of General Internal Medicine 2017).²²

Common supplemental benefits with more obvious health value to beneficiaries were discounts on dental, vision, and hearing services.²³ These benefits may be of particular value to low-income, non-dual-eligible beneficiaries, who may view MA plans that offer these benefits as financially attractive. However, we do not have reliable data about the use of these benefits and cannot determine their value relative to the amount Medicare spends on them.^{24,25} Limited evidence on MA dental claims suggests that—though oral health is important—relatively few enrollees with embedded dental coverage utilize these benefits, and users are disproportionately those in better

health (Wix and Fontana 2020).²⁶ Similarly, one study of claims data from a large private payer found that—though hearing loss is associated with declines in mental health and cognition—relatively few aged enrollees received any hearing aid services after being diagnosed with hearing loss, and hearing aid use was disproportionately higher among white enrollees (Mahmoudi et al. 2019).^{27,28} In addition, benefits for dental, vision, and hearing are not standardized, and plans offer a vast array of benefits for the same service.²⁹ For example, among the 2,400 MA plans with a hearing aid benefit in 2016, there were 123 unique variations of hearing aid coverage—by in-network or out-of-network providers; by type of hearing aid; by type of cost sharing (copayments or coinsurance); and, most commonly, by a dollar limit on the amount of coverage (Medicare Payment Advisory Commission 2017). Beneficiaries are likely to find it difficult to choose the best plan for coverage of supplemental benefits, raising concerns about whether these benefits are being administered efficiently for both beneficiaries and the Medicare program.³⁰

Further, while MA coverage of dental, vision, and hearing services provides essential access for some beneficiaries, it is not clear that these benefits drive beneficiary choice of plans. Evidence suggests that cost sharing and premiums drive beneficiary plan selection (Jacobson et al. 2014). Studies have found that beneficiaries entering MA were highly likely to choose the lowest premium plan option (Jacobson et al. 2014, Meyers et al. 2019, Skopec et al. 2019). These studies did not include the influence of any Part B premium reductions. While relatively few MA enrollees voluntarily switch MA plans, premiums are a dominant factor when plan switching does occur (Jacobson et al. 2016, Medicare Payment Advisory Commission 2015, Meyers et al. 2019). Additionally, in interviews, insurance brokers noted that Part B premium reductions were important in some parts of the country and were most attractive to low-income beneficiaries (Medicare Payment Advisory Commission 2015).

We also examined plan-wide supplemental benefits that target populations with high needs; coverage for these benefits was generally not common.³¹ A limited meals benefit related to temporary medical needs was the most common among these benefits (56 percent of projected MA enrollees covered), but all others were far less common. Nonemergency medical transportation covered 37 percent of projected MA enrollees, and less than 10 percent of projected enrollees were covered by in-home

**FIGURE
1-3****The MA supplemental benefits currently offered to most enrollees do not focus on high-needs populations, 2021**

Note: MA (Medicare Advantage), COPD (chronic obstructive pulmonary disease), CHF (congestive heart failure), SSBCI (special supplemental benefits for the chronically ill). This figure is based on 3,821 plan benefit packages and plan projected enrollment in bid data; the figure excludes plans with enrollment restrictions, such as employer group plans and special needs plans. The figure does not include Part D extra benefits or MA optional supplemental benefits (benefits beneficiaries can opt into and pay a separate premium for to cover the cost). Limited meal benefits are of limited duration and either follow an inpatient stay or are part of an established medical treatment. Uniform benefit flexibility allows MA plans to design disease-specific benefits; the figure includes plan flexibilities offered under the value-based insurance design model that also allows benefit design specific to socioeconomic status. SSBCI are supplemental benefits that are not primarily health related and may be offered non-uniformly to eligible chronically ill enrollees who are at risk of adverse health outcomes and require intensive care coordination.

Source: MedPAC analysis of MA bid and plan benefit package data for general enrollment plans, 2021.

support services and enhanced disease management (Figure 1-3, p. 17). Among dual-eligible SNPs (D-SNPs), nonemergency medical transportation (86 percent of projected enrollees covered) and limited meals (74 percent of projected enrollees covered) were commonly offered, but most MA enrollees are not eligible for D-SNP enrollment (data not shown).

In addition, most plans in 2021 did not choose to offer special supplemental benefits that are targeted exclusively for enrollees with specific medical or social needs (Figure 1-3, p. 17). Plans have two general options for targeting benefits to specific groups of enrollees: flexibility of the uniform benefit requirement (starting in 2019) and special supplemental benefits for the chronically ill (SSBCI) (starting in 2020). Most plans did not offer supplemental benefits that target enrollees with high needs through either uniform benefit flexibility or CMS's Center for Medicare and Medicaid Innovation value-based insurance design model. These flexibilities allow MA plans to offer additional benefits or cost-sharing reductions based on specific diseases or socioeconomic status. However, the most commonly targeted group was beneficiaries with diabetes, and only 8 percent of projected MA enrollees were in a plan that used this flexibility.³² Among D-SNPs, the most commonly targeted group was beneficiaries of low socioeconomic status, and 40 percent of projected MA enrollees were in a plan that used this flexibility (data not shown).³³ Additionally, SSBCI were only sparsely covered among general enrollment MA plans. These supplemental benefits are not primarily health related and may be offered nonuniformly to eligible chronically ill enrollees who are at risk of adverse health outcomes and require intensive care coordination. The most common of the SSBCI were food and produce, which was available only to 7 percent of projected MA enrollees. SSBCI were more common among D-SNPs (data not shown), but coverage of SSBCI was relatively low given the needs of the population that D-SNPs serve.³⁴ As plans become accustomed to administering SSBCI, these benefits may become more common, but we currently do not have utilization data for these (or any) supplemental benefits and are unable to assess their efficacy or their value to beneficiaries.

Finally, the supplemental benefit policy provides an incentive for plans to allocate rebates to cost-sharing reductions (although this incentive is limited by the potential for induced utilization) and supplemental benefits. Plans can apply administrative costs and profit to these extra benefits. For supplemental benefits in 2021,

15 percent of rebate dollars was devoted to administrative costs and profits. In contrast, MA plans are not allowed to apply any administrative cost or profit to rebate dollars allocated to reducing premiums. Overall, standardizing some types of supplemental benefits could potentially help beneficiaries choose a plan with higher value for their needs. Improved availability of supplement benefit utilization data would help policymakers assess the value of supplemental benefits and help ensure that Medicare beneficiaries and the program receive good value for these services, which represent a growing share of payments to MA plans.

Current benchmark policy does not leverage plan efficiencies

Consistent with the original incorporation of full-risk private plans in Medicare, we expect plans to be more efficient than FFS Medicare, and the Medicare program should be able to capitalize on such efficiency as a means of improving the fiscal outlook of the Medicare program. MA plans have more tools to control costs relative to FFS, such as narrower provider networks and prior authorization. To entice enrollees to accept the constraints of these cost controls, plans must have an out-of-pocket cap on cost sharing for the basic Medicare benefit, and plans increase enrollment by offering beneficiaries extra benefits. Improved plan efficiencies have led to more competitive bids that enable plans to offer greater coverage of extra benefits. However, these taxpayer-subsidized extra benefits are at an all-time high level, accounting for 14 percent of Medicare's payments to MA plans. In addition, Medicare Part B premiums—which are paid by beneficiaries in both FFS and MA—are used in part to finance extra benefits that only MA beneficiaries receive. Furthermore, nearly all Medicare beneficiaries (99 percent) have access to an MA plan that bid below FFS spending, and—on a per member dollar basis—MA is far more profitable for insurers relative to the individual and group markets (Jacobson et al. 2019a, McDermott et al. 2020). Plan efficiency could be more directly leveraged through revisions to the benchmark policy.

Simulating an alternative benchmark policy

Over time, improvements in plan efficiency have led to higher rebates, more extra benefits offered to beneficiaries, and higher MA enrollment. The Commission contends

that the Medicare program should share in the efficiencies obtained through the MA program. Thus, we consider an alternative to the current benchmark policy for the near term that generally maintains the current bidding processes and structure but rebalances the allocation of MA efficiency and geographic subsidies for extra benefits.

A revised benchmark policy should have four attributes: maintain wide availability of plans, establish predictable and stable payment rates, support equal access to extra benefits across geographic areas, and appropriately allocate MA plan efficiency to beneficiaries and the Medicare program. A number of alternatives to the current benchmark policy could accomplish one or two of these goals. Our preferred approach to satisfying all four goals is one that would continue to set a range of benchmarks, with higher benchmarks in low-spending areas (to ensure plan participation) and lower benchmarks in high-spending areas (to encourage efficient delivery of care), but would reduce benchmarks for most areas. Benchmarks in the two lowest spending quartiles (those currently set at 115 and 107.5 percent of FFS spending) would be brought much closer to FFS spending now that most plans in those areas bid below FFS spending, while benchmarks in the highest spending quartile (those currently set at 95 percent of FFS spending) would be further reduced. Reducing benchmarks would provide a more balanced approach that reduces subsidies in low-spending FFS areas while modestly increasing financial pressure on high-spending FFS areas where plans bid the lowest relative to their benchmarks and thus generate disproportionately more rebate dollars in the extra benefits plans can offer. The new benchmarks can maintain existing levels of reduced cost sharing for beneficiaries who enroll in MA plans. To improve continuity and stability, benchmarks would be set on a continuous scale of local FFS spending. To improve incentives for plan efficiency, rebates would be set at a level more reflective of the level of financial risk plans are taking. Overall, program savings would be integrated into benchmarks to ensure that the Medicare program receives at least a small share of plan efficiencies.

Under this policy option, the current quartile structure would be replaced with a system blending local area and national per capita FFS spending and applying a discount factor.³⁵ This alternative benchmark approach would address the problems with current benchmarks discussed in the preceding section and would incorporate the Commission's current set of recommendations on MA benchmarks:

- Calculate estimates of county FFS spending using beneficiaries enrolled in both Part A and Part B. Current policy calculates county FFS spending based on all beneficiaries, including those with Part A only or Part B only. Calculating benchmarks using only beneficiaries with Part A and Part B increases benchmarks relative to current policy.³⁶
- Eliminate the ACA's benchmark caps, which cap any county's benchmark at the higher of (1) its pre-ACA level, projected into the future with a legislatively modified national growth factor and (2) 100 percent of its estimated FFS spending in the current year. The cap disproportionately affects counties in the areas with lowest spending. Eliminating benchmark caps increases benchmarks relative to current policy.
- Decouple star ratings from rebates by removing differential rebate percentages based on star ratings. In June 2020, the Commission recommended eliminating quality bonus increases to benchmarks and replacing that system with a plan-financed MA value incentive program (MA-VIP) that distributes higher payments to plans that perform well within geographically defined areas. That recommendation did not address the MA rebate policy. Our alternative benchmark approach is separate from that recommendation and would replace the current rebate policy—that depends on star ratings—with a 75 percent rebate for all plans, the rebate percentage that was used before the implementation of the MA quality bonus program. Increasing the rebate percentage provides a greater incentive for plan efficiency and directly helps maintain basic supplemental benefits for MA enrollees. In addition, a 75 percent rebate aligns with the highest shared savings rate (75 percent) in the Medicare Shared Savings Program for accountable care organizations that take on the highest risk. If the alternative benchmark approach were implemented, incentives for plan quality would largely continue unabated through the MA quality bonus program or those incentives could be substantially improved through the Commission's prior recommendation on the MA-VIP.
- Use local market areas, rather than counties, as the payment areas for benchmarks (consistent with prior Commission recommendations to establish geographic areas for payment to MA plans). The alternative benchmarks would be based on payment areas that aggregate counties within each state according to

metropolitan statistical areas for urban counties and health service areas (as defined by the National Center for Health Statistics) for nonurban counties. However, because plan bids and benchmarks are currently based on counties, we use county-level plan payments and rebates to compare benchmark alternatives with current policy.

To test the feasibility of our alternative benchmark policy, we conducted simulations comparing benchmarks and payments under our alternative approach to current base benchmarks (i.e., benchmarks without any quality bonus increase) using 2020 bid and spending data. We conducted these simulations and comparisons on base benchmarks to isolate the effect of replacing the current benchmark policy with the alternative approach, independent of the Commission’s recommendation to replace the current quality bonus program with the MA–VIP (Medicare Payment Advisory Commission 2020). In 2020, base benchmarks under current policy are an estimated 103 percent of FFS spending and would be 102 percent of FFS spending if benchmarks were calculated using the FFS population with both Part A and Part B coverage, as the Commission recommended in 2017.³⁷ Simulations (assuming no quality bonus payments) show that our alternative policy for formulating benchmarks could lower Medicare spending with little disruption to plan availability. Simulations also show how our alternative benchmark policy can be calibrated over time by adjusting the weighting of local and national spending amounts or the discount factor.

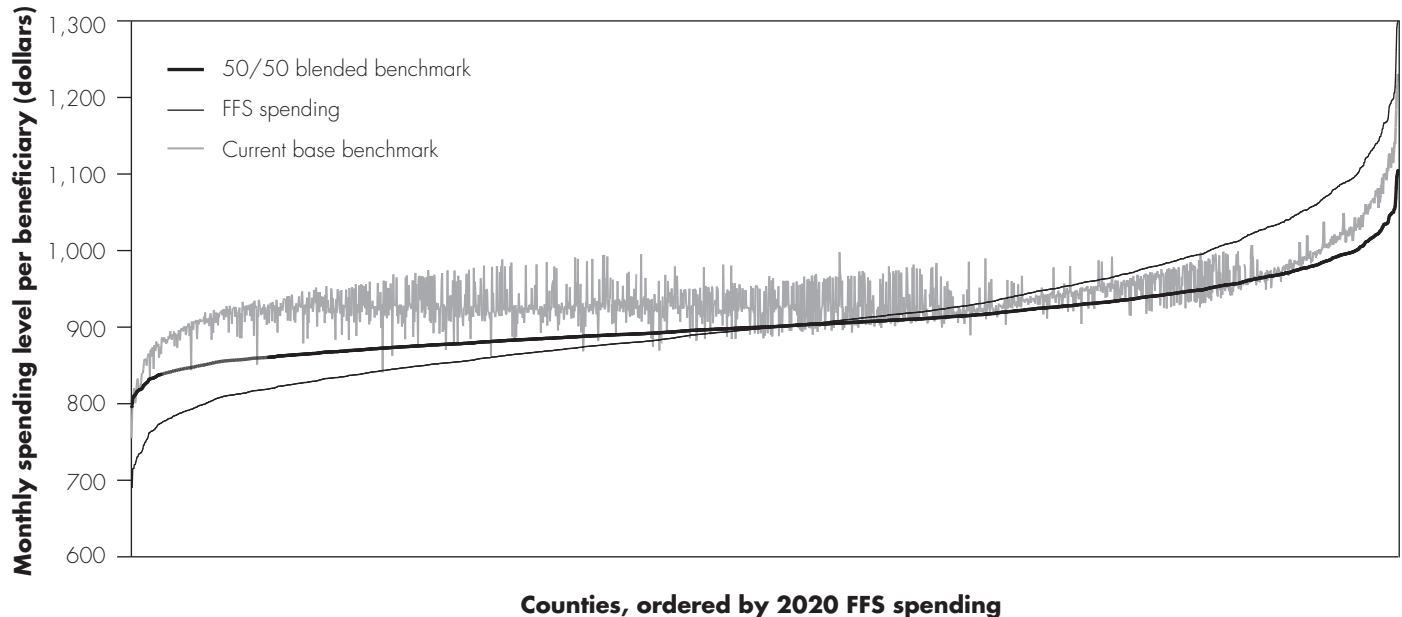
Our estimate of MA payments relative to FFS spending does not directly account for coding differences or other potential factors with more measurement uncertainty, such as the potential for a favorable selection of beneficiaries enrolling in an MA plan or for enrollees who choose to exit MA for FFS. Our estimates also do not incorporate various forms of potential “spillover” (e.g., changes in FFS provider practice patterns that may occur in areas with high MA market shares that reflect providers’ adaptation to MA utilization management techniques, or potential spillover into MA from FFS alternative payment models), or any effect of retrospective MA and FFS improper payment remittances.³⁸ Although these factors may affect some estimates in this chapter, their net effect does not affect the merit of replacing the current benchmark policy with the proposed alternative policy.

In developing our alternative benchmark policy option, we considered the following parameters:

- ***The weight of local and national spending in the blend.*** A 50/50 blend meets the Commission’s preferences for additional financial pressure on both the highest and lowest spending areas. Increasing the local area weight (e.g., 90 percent local area spending and 10 percent national spending) would move all benchmarks closer to FFS spending. Decreasing the local weight (e.g., 10 percent local area spending and 90 percent national spending) would increase benchmarks in low-spending areas further above FFS and decrease benchmarks in high-spending areas further below FFS spending.
- ***Whether benchmarks should have a floor and ceiling relative to local FFS spending.*** Depending on the weight given to local FFS spending, blending local and national FFS spending could result in benchmarks that are (1) lower than the current quartile factor of 95 percent of FFS for the highest spending areas and (2) higher than the current quartile factor of 115 percent of FFS for the areas with lowest spending. Using local market areas instead of counties and using a local area weight of at least 50 percent mitigates the extreme values that would necessitate the establishment of a floor and ceiling. In our simulations that equally blended local and national FFS spending, we examined the average bid within each MA market and determined that a floor and ceiling were not likely necessary.³⁹
- ***Applying a 75 percent rebate.*** The existing rebate percentage policy varies from 50 percent to 70 percent based on star ratings from the quality bonus program. Under our estimates, a flat 75 percent rebate for all MA contracts decouples rebates from the MA star ratings, aligns incentives with other alternative payment models, and helps efficient plans maintain basic supplemental coverage for enrollees by offsetting reductions in benchmarks from applying the 50/50 blend.
- ***Applying a 2 percent discount rate to ensure Medicare program savings.*** While we estimate the effect of our alternative benchmark policy relative to plan payments without quality bonus dollars (equivalent to 103 percent of FFS spending), our benchmark alternative also makes adjustments that increase MA payments (i.e., adjusting our FFS spending to include only the population with both Part A and Part B coverage, removing benchmark caps, and increasing the rebate percentage). Therefore,

**FIGURE
1-4**

A blended approach would keep benchmarks above local FFS in low-spending areas and below local FFS in high-spending areas, 2020



Note: FFS (fee-for-service). We used CMS's estimate of FFS spending for 2020 benchmark calculations and made adjustments to better reflect spending for the FFS population with both Part A and Part B coverage. Base benchmark includes the cap on benchmarks. The 50/50 blended benchmark is 50 percent weighted with local area spending per capita and 50 percent weighted with standardized national FFS spending per capita. National FFS spending uses standardized wages and eliminates adjustments made to FFS payments for graduate medical education and indirect medical education.

Source: MedPAC analysis of 2020 MA rate data and FFS spending.

in order for the Medicare program to achieve overall savings, the Commission's alternative approach claims a modest share of plan efficiencies—2 percent savings.

Base all benchmarks on a blend of local and national FFS spending

In our alternative benchmark policy, each area's benchmark is based on a 50/50 blend of per capita local FFS spending and price-standardized national per capita FFS spending (measured by service use at standardized wages). A 50/50 local and national weight aims to help plans move from the current quartile payment system to benchmark levels that allow for both plan availability and overall program savings. The benchmark blend ensures a continuous scale of local spending (ordered lowest to highest) but reduces the overall variation by adjusting spending estimates toward a central, national spending estimate. The blend accommodates the availability of

MA plans both in areas where FFS spending is high and in areas where it is low (Figure 1-4). A 50/50 blend of local and national FFS spending would keep benchmarks above local FFS in low-spending areas and below local FFS in high-spending areas. In addition, the blended approach would eliminate the pervasive variation in current base benchmarks relative to local FFS spending (i.e., the numerous peaks and valleys in Figure 1-4), which are created by quartile payment factors (based on the prior two years' estimates of local area FFS spending), benchmark caps, and FFS spending estimates that include beneficiaries who do not have both Part A and Part B coverage.⁴⁰ In conjunction with a local and national blend, policymakers could use a phase-in approach to increase the weight of the local spending in the blend for low-spending areas (where MA payments are currently above FFS spending), which would gradually reduce benchmarks in those areas closer to local FFS spending.

**TABLE
1-5**

MA benchmarks based on a 50/50 blend of local and national FFS spending would decrease benchmarks in both low-spending and high-spending areas

MA benchmark as a share of FFS spending (ordered by local area FFS spending)

Benchmark policy	1st percentile	10th percentile	25th percentile	50th percentile	75th percentile	90th percentile	99th percentile
Current base benchmark	114%	113%	107%	100%	97%	94%	93%
Local FFS weight/national FFS weight:							
10/90	119	109	105	99	92	85	73
30/70	115	107	104	100	94	88	79
50/50	110	105	103	100	96	92	85
70/30	106	103	102	100	97	95	91
90/10	102	101	101	100	99	98	97

Note: MA (Medicare Advantage), FFS (fee-for-service). We used CMS's estimate of FFS spending in 2020 for benchmark calculations and adjusted that estimate to better reflect spending for the FFS population with both Part A and Part B coverage. The current base benchmark includes the cap on benchmarks. National FFS spending standardizes the spending for per capita service use and eliminates adjustments made to FFS payments by hospital wage indexes, geographic practice cost indexes, graduate medical education, and indirect medical education.

Source: MedPAC analysis of 2020 MA rate data and FFS spending.

How to weight local FFS and national FFS spending in a blended benchmark

To simulate our alternative benchmark structure, we use a balanced approach of a 50/50 blend of local FFS and national FFS spending. We compare the distribution of alternative benchmarks relative to current base benchmarks (Table 1-5). The current base benchmarks listed in Table 1-5 are not equivalent to the current quartile factors relative to FFS (115 percent, 107.5 percent, 100 percent, or 95 percent) because they include the current benchmark cap policy and are compared with FFS spending after adjusting for the population with both Part A and Part B coverage. Relative to current base benchmarks, a 50/50 blend decreases benchmarks in both the areas with lowest spending and the areas with highest spending.

We found the 50/50 blend reasonably balances the allocation of plan efficiency to enrollee extra benefits and the Medicare program. In contrast, blends that were not of relatively equal weight would not adequately address the Commission's concerns about current benchmark policy. Starting with a local FFS weight far above 50 percent could put excessive financial pressure on plans in the lowest spending areas—potentially putting basic supplemental coverage for cost sharing at risk for

many MA enrollees in these areas—while applying insufficient pressure on plans in the areas with highest spending, where MA bids are already lowest relative to their benchmarks. For example, when applying a higher local weight in each area equivalent to a 90/10 blend, the lowest spending areas would be closer to parity with local area FFS spending, but the highest spending areas would have increased benchmarks relative to current base benchmarks. Conversely, decreasing the local weight far below 50 percent would not adequately address one of the primary problems with benchmarks—driving MA enrollment toward areas where Medicare pays more for MA enrollees than for FFS beneficiaries. In addition, weighting local FFS far below 50 percent could add excessive financial pressure in the areas with the highest spending, which could discourage enrollment in some areas where MA is achieving Medicare savings.

One related consideration for policymakers is whether Medicare should permanently allow some benchmarks to be above FFS spending in the areas with lowest spending or gradually decrease benchmarks closer to 100 percent of local area FFS spending in these areas. One option would be to start with a 50/50 blend in all areas and gradually reduce benchmarks only in areas that have benchmarks above FFS spending (generally

low-spending areas). This approach would keep a 50/50 blend in high-spending areas (where local FFS spending is above national standardized spending) and gradually transition from a 50/50 blend to a higher local FFS weight (e.g., 90/10) in the low-spending areas. Given the already disproportionate impact on low-spending areas from a 50/50 blend, we did not simulate this approach.

Market-level plan bids were lower than blended benchmarks, mitigating the need for a benchmark ceiling and floor

As shown in Table 1-5, our alternative benchmark structure with a 50/50 blend of local and national FFS spending results in benchmarks below the current base benchmark of 95 percent of FFS. Establishing a benchmark floor would prevent benchmarks in high-spending areas from deviating too far from local FFS spending. Given the propensity of MA plans in high-spending areas to bid further below FFS spending (Figure 1-2, p. 12), some financial pressure below 95 percent of FFS could be appropriate (e.g., 90 percent of FFS spending), and a floor of 95 percent could reduce the program savings resulting from a blended benchmark proposal. We simulated blended benchmarks using MedPAC market areas and found only 5 benchmark areas (out of 856 total MA benchmark areas) with a blended benchmark less than 90 percent of local FFS spending.⁴¹ The average bid (weighted by enrollment) in these areas ranged from 83 percent to 88 percent of FFS spending. Across all market areas nationally, nearly all (99 percent) had an average MA bid below the 50/50 blended benchmark (Figure 1-5, p. 24). Ninety percent of market areas had an average bid more than 5 percent below the 50/50 blended benchmark. Thus, while it may be worthwhile to have a floor relative to FFS spending to protect plans that currently produce savings for Medicare, it is not essential in the vast majority of markets. Therefore, we did not incorporate a floor or ceiling in our simulations. Moreover, plans in most markets would bid far below their benchmark—opening the possibility for further financial pressure.

The rationale for a rebate of at least 75 percent

The rebate percentage (i.e., the share of the difference between the plan bid and benchmark) determines the amount that plans bidding below the benchmark are paid to fund extra benefits. Under current policy, a plan's rebate percentage is typically 65 percent or 70 percent. While these rebate percentages are dependent on a plan's star rating, incentives are weak and do not align with the

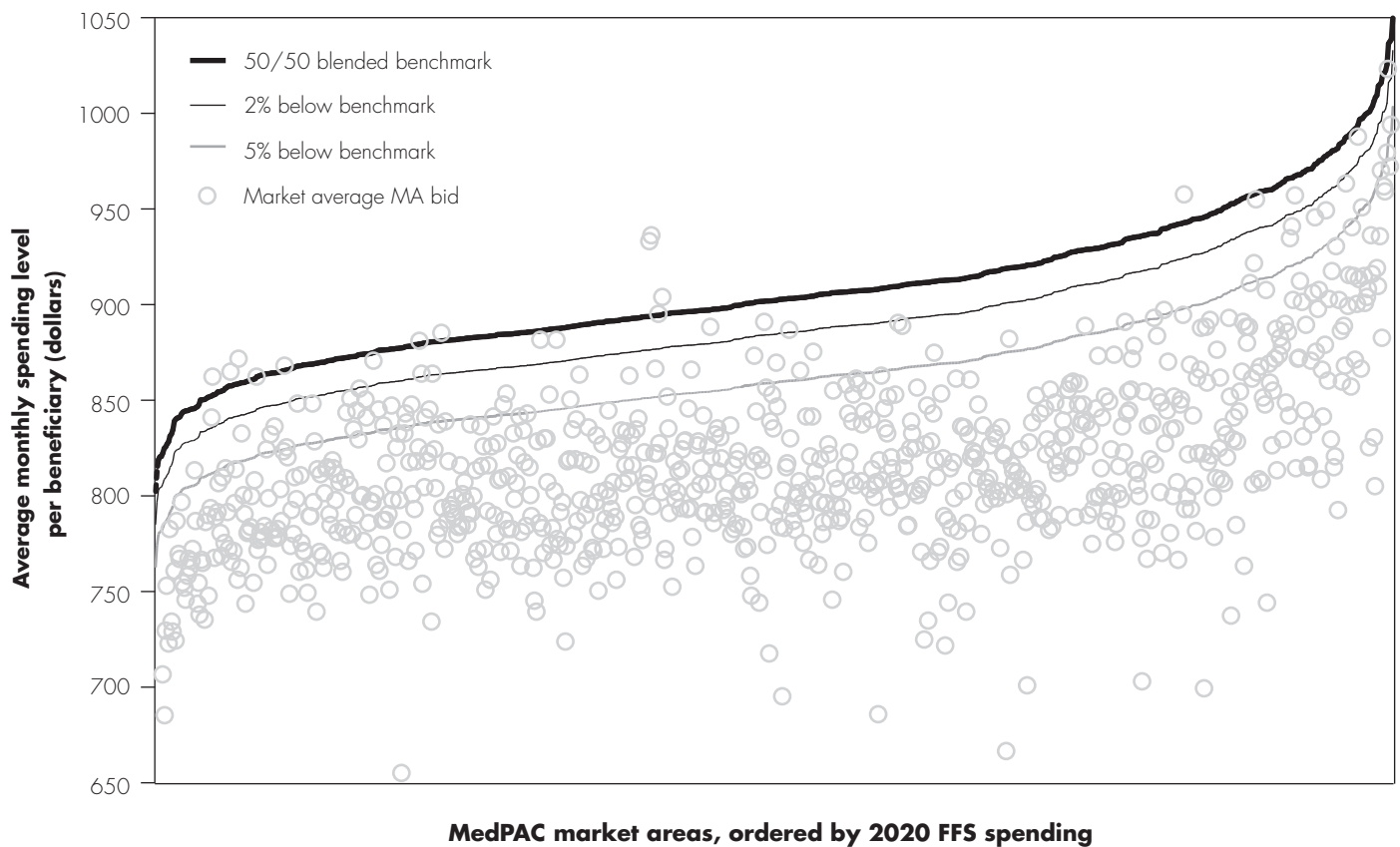
current MA quality bonus program. For example, quality bonus increases to benchmarks require at least 4 stars, but 3.5-star and 4-star plans both receive a 65 percent rebate (accounting for most MA enrollees in 2021). Across all plans, the average rebate is about 65 percent, and enrollees are rarely in plans receiving rebates below that level (fewer than 5 percent of MA enrollees were in a plan receiving less than a 65 percent rebate in 2021). In June 2020, the Commission recommended replacing the quality bonus program, which applies a bonus increase to benchmarks for plans with a star rating of 4 or greater, with an MA–VIP that distributes higher payments to plans that perform well within geographically defined areas. The MA–VIP recommendation did not address the current rebate policy. Our alternative benchmark approach is independent of that recommendation and would do little to alter current quality incentives, which are weakly tied to rebates but driven by benchmark bonus increases (and could be strengthened by implementing the Commission's MA–VIP). For the alternative benchmark approach, we eliminate star ratings from the calculation of rebate payments—allowing quality to be more consistently applied through either the current MA quality bonus program or the Commission's MA–VIP. Our alternative benchmark policy sets the rebate at 75 percent or more for all plans. The overall increase in rebate percentage creates greater rewards for plan efficiency and offsets the potential for reduced rebate amounts due to lower benchmarks under the alternative benchmark policy. A 75 percent rebate policy is consistent with an earlier rebate policy established under the Medicare Modernization Act of 2003 and used until it was replaced by the ACA rebate policy. A 75 percent rebate also aligns with the highest shared savings rate in the Medicare Shared Savings Program for accountable care organizations that take on the highest level of risk. Finally, a rebate of 75 percent would allow efficient plans to maintain a robust level of supplemental coverage for enrollees.

Achieving program savings through a discount rate

The Commission's June 2020 report contends that growth in Medicare program spending poses a significant challenge, and MA has the potential to serve as a vehicle for addressing that challenge. To achieve program savings relative to current base benchmarks (excluding quality bonus increases), the alternative benchmark structure must include a discount factor. Indeed, when simulating blended benchmarks with 50/50 local and national weighting,

**FIGURE
1-5**

Average MA bids in nearly all market areas were lower than a 50/50 blended benchmark, 2020



Note: MA (Medicare Advantage), FFS (fee-for-service). Metropolitan counties are grouped into a MedPAC market area if they are located in the same state and the same metropolitan statistical area. Nonmetropolitan counties are grouped into a MedPAC market area if they are located in the same state and the same health service area as defined by the National Center for Health Statistics. Analysis includes 856 market areas with at least 10 percent of Medicare beneficiaries (covered by both Part A and Part B) enrolled in MA. Data excludes employer group waiver plans, regional preferred provider organizations, and plans in the territories. We used CMS's estimate of FFS spending in 2020 for benchmark calculations and made adjustments to better reflect spending for the FFS population with both Part A and Part B coverage. The 50/50 blended benchmark is 50 percent weighted with local area spending per capita and 50 percent weighted with standardized national FFS spending per capita. National FFS spending standardizes the spending for per capita service use and eliminates adjustments made to FFS payments by hospital wage indexes, geographic practice cost indexes, graduate medical education, and indirect medical education. Average MA bids by market area are weighted by projected plan enrollment in the market. While plans bid at a service area level that often includes multiple counties, MA bid data contained an imputed bid value at the county level that we aggregated to the market level.

Source: MedPAC analysis of 2020 MA rate data and FFS spending.

we estimate no savings when no discount rate is applied (Table 1-6). While the alternative benchmarks were nearly 3 percent lower than current base benchmarks, much of that savings was eliminated because our simulations increased the rebate from an average of 65 percent under current policy to 75 percent (reflecting the MA rebate percentage before the implementation of the MA quality bonus program). Our alternative blended benchmark would remove the quartile benchmark structure, but we examined the change in MA payments by FFS spending

quartile to illustrate how a blended benchmark compares with current base benchmarks. Under a blended approach with no discount factor, plans in the highest quartile of FFS spending would see a decrease in benchmarks of 1 percent and an increase in payments of 1 percent relative to current base benchmarks (Table 1-6). For SNPs, payment differences relative to current base benchmarks were nearly identical to the results for all MA plans (data not shown).

**TABLE
1-6****Without a discount rate, MA payments resulting from benchmarks based on a blend of local and national FFS spending would achieve no overall program savings**

Blended benchmark alternative of 50/50 local and national FFS spending	Quartiles of FFS spending				
	Overall	Lowest	Second	Third	Highest
Simulated MA benchmarks relative to current MA base benchmarks:					
0% discount	-2%	-5%	-4%	-1%	-1%
2% discount	-5	-7	-6	-3	-3
5% discount	-7	-10	-9	-6	-6
Simulated MA payments relative to current MA base payments:					
0% discount	0%	-3%	-2%	1%	1%
2% discount	-2	-4	-3	-1	-1
5% discount	-4	-7	-6	-3	-3

Note: MA (Medicare Advantage), FFS (fee-for-service). Data exclude employer group waiver plans, regional preferred provider organizations, and plans in the territories. Spending quartiles are based on the FFS spending values of plan service areas. National FFS spending standardizes the spending for per capita service use and eliminates adjustments made to FFS payments by hospital wage indexes, geographic practice cost indexes, graduate medical education, and indirect medical education. We used CMS's estimate of FFS spending for 2020 benchmark calculations and made adjustments to better reflect spending for the FFS population with both Part A and Part B coverage. Blended benchmarks reflect (1) a 50/50 weight of local area FFS spending and standardized national FFS spending per capita and (2) rebate values at 75 percent of the difference between benchmarks and bids for plans that bid below the benchmark. Blended benchmarks do not include payment quartiles. Current base benchmarks and payment rates reflect current policy without quality bonus payments. The average rebate under current policy is 65 percent.

Source: MedPAC analysis of 2020 MA bid and rate data and FFS spending.

To ensure overall program savings, then, a discount rate must be applied to benchmarks. We simulated discount rates of 2 percent (i.e., 98 percent of local area blended benchmarks) and 5 percent (i.e., 95 percent of local area blended benchmarks). Table 1-6 shows that a 2 percent discount rate would yield program savings of 2 percent, while a 5 percent discount rate would yield program savings of 4 percent. The magnitude of savings would be similar if MA quality bonuses were included. A discount rate would put some additional financial pressure on plans in the highest FFS spending quartiles. Implementing an alternative benchmark policy that starts with a 2 percent discount rate would allow policymakers to retrospectively examine the MA market before seeking larger program savings.

One concern with applying a discount rate is that it could restrict the availability of plans that can provide sufficient supplemental cost-sharing reductions because MA enrollees rely on this benefit in lieu of supplemental Medigap coverage. To examine this possibility, we analyzed the availability of plans that could provide the same level of cost-sharing reductions under a simulation that applies a 2 percent discount rate and excluded quality

bonus increases to benchmarks and associated quality bonus payments. We excluded special needs plans, employer group plans, and MA plans that did not offer any cost-sharing reductions in 2020. We examined the share of Medicare beneficiaries with access to an MA plan that used rebate dollars for either cost-sharing or premium reductions. We recognize the potential value of other extra benefits, and our alternative benchmark policy would not preclude plans from offering other benefits. We chose cost-sharing reductions because they are most analogous to Medigap supplemental coverage, and we chose premium reductions because they have been most clearly associated with beneficiary plan selection.⁴²

Under our alternative benchmark policy with a 2 percent discount rate (excluding quality bonus increases to benchmarks and associated payments), nearly all beneficiaries would continue to have an MA plan available with enough rebate dollars to cover cost-sharing and premium reductions (Table 1-7, p. 26). (There is, however, no requirement or guarantee that plans would spend rebate dollars on these types of supplemental benefits.) In addition, the number of plan sponsors offering a plan that

**TABLE
1-7**

Access to MA plans with current levels of cost-sharing and premium reductions would be high under a blended benchmark with a 2 percent discount rate

Supplemental coverage	Quartiles of FFS spending			
	Lowest	Second	Third	Highest
Share of Medicare beneficiaries with access to at least one MA plan with:				
Current policy: 2020 cost-sharing or premium reduction	>99.5%	>99.5%	99%	97%
Simulated rebate: sufficient to cover 2020 cost-sharing reduction levels	>99.5	>99.5	99	97
Simulated rebate: sufficient to cover 2020 cost-sharing and premium reduction levels	>99.5	>99.5	98	96
Average number of plan sponsor choices per beneficiary with:				
Current policy: 2020 cost-sharing or premium reduction	6	6	7	8
Simulated rebate: sufficient to cover 2020 cost-sharing reduction levels	6	6	7	8
Simulated rebate: sufficient to cover 2020 cost-sharing and premium reduction levels	5	5	7	8
Average number of plan choices per beneficiary with:				
Current policy: 2020 cost-sharing or premium reduction	22	22	27	27
Simulated rebate: sufficient to cover 2020 cost-sharing reduction levels	15	16	22	24
Simulated rebate: sufficient to cover 2020 cost-sharing and premium reduction levels	12	11	19	22

Note: MA (Medicare Advantage), FFS (fee-for-service). Data exclude employer group waiver plans and regional preferred provider organizations. Spending quartiles are based on the FFS spending values of plan service areas. Payments for alternative benchmarks exclude quality bonus increases to benchmarks and associated payments and reflect rebate values at 75 percent of the difference between benchmarks and bids for plans that bid below the benchmark. Simulated rebate values for blended benchmarks assume no change in plan bidding behavior. Simulated rebates result from blended benchmarks that reflect (1) a 50/50 weight of local area FFS per capita spending and standardized national FFS spending and (2) rebate values at 75 percent of the difference between benchmarks and bids for plans that bid below the benchmark. Unlike current policy, blended benchmarks do not include quartile payment adjustments. The average rebate under current policy is 65 percent. Supplemental coverage for premiums may reflect premium buydown for either Part D or Part B. "Plan sponsors" represent the number of distinct parent organizations.

Source: MedPAC analysis of 2020 MA bid and rate data, CMS 2020 enrollment, and FFS spending.

could cover cost-sharing and premium reductions would be nearly the same under a blended benchmark, indicating that the average beneficiary could remain with the same plan sponsor and maintain the same level of cost-sharing and premium reductions. For beneficiaries in the quartile areas with the lowest spending, the number of available plans that could offer such levels of benefits (without any bid reduction) would be reduced, but these beneficiaries would still have access to a reasonably robust number of plans and plan sponsors that could offer 2020 levels of cost-sharing and premium reductions—an average of 12 such plans sponsored by 5 different organizations.⁴³ Taking these measures of plan availability together, the relative disruption to beneficiary access to MA cost-sharing and premium reduction supplemental coverage would likely be modest under our alternative benchmark policy that includes a 2 percent discount rate.

While our simulations assume no change in bidding behavior relative to 2020 levels, at least some plans would likely respond to lower benchmarks with lower bids, thereby maintaining the same level of extra benefits (relative to current policy). In the Commission's June 2020 report to the Congress, we reported that plans that lost their benchmark bonus status tended to respond by lowering their bids, thereby maintaining rebate levels for beneficiaries (Medicare Payment Advisory Commission 2020). In addition, the MA cost estimates from the Congressional Budget Office (CBO) have assumed that plans would reduce bids by half of the decrease in benchmarks (Congressional Budget Office 2018, Song et al. 2013, Song et al. 2012). We simulated benchmarks produced by our alternative policy under the CBO assumption and found that nearly all plans would have enough rebate dollars to cover 2020 levels of cost-sharing and premium reductions. Further, our March 2021 report

Medicare Advantage payments for beneficiaries who are eligible for both Medicare and Medicaid

Medicare Advantage (MA) payments account for Medicaid eligibility status through the risk adjustment system and the quality bonus program. Since 2017, the risk adjustment system has distinctly predicted spending (and risk score disease coefficients) for six separate categories of enrollment based on whether beneficiaries qualify for full or partial Medicaid benefits or do not qualify for Medicaid benefits (along with Medicare eligibility due to age or disability). As a result, the relative cost of a condition is specific to each subgroup of beneficiaries, meaning that, on average, Medicare pays more accurately than previously for those groups of beneficiaries. The 2017 risk adjustment system eliminated overpayments for Medicare beneficiaries who qualify for partial Medicaid and underpayments for those who qualify for full Medicaid benefits. In addition, fully integrated dual-eligible special needs plans (i.e., those that administer both Medicare and Medicaid benefits) are also eligible to receive a frailty adjuster that increases all plan payments if plan enrollees have difficulty with activities

of daily living. Furthermore, since 2017, the quality bonus program has included a categorical adjustment index that adjusts the overall star rating (which is the basis of bonus payments) for MA contracts with higher shares of beneficiaries who are eligible for Medicaid or Part D's low-income subsidy (LIS).

Because of these adjustments within the risk adjustment system and quality program, the MA benchmarks do not have to address eligibility for Medicaid or Part D's LIS. Neither the current policy of MA benchmarks (implemented under the Affordable Care Act of 2010) nor our proposed benchmark option directly address low-income status. Furthermore, MA special needs plans can tailor their benefit package by not allocating their rebate to benefits that are covered by other payers (e.g., Part A and Part B cost sharing and Part B premium coverage by Medicaid and Part D premium coverage up to the LIS benchmark through Part D) and instead allocate more rebate funding to other extra benefits. ■

to the Congress showed that plans decreased their bids (relative to FFS) from 2020 to 2021—suggesting that plans have found efficiencies beyond their 2020 bidding levels.⁴⁴

Our simulations on access to MA plans do not include SNPs because those plans do not generally include cost sharing, are far less likely to include premium reductions, and are not available to all Medicare beneficiaries. SNPs offer benefit packages tailored to specific populations, which most often pertain to beneficiaries who are dually eligible for Medicare and Medicaid (see text box on how MA payments account for dual-eligible beneficiaries). In 2020, SNP bids averaged 88 percent of base benchmarks. We simulated a 50/50 blended benchmark with a 2 percent discount rate for SNPs and found that 2020 SNP bids would average 92 percent of alternative benchmarks (data not shown). In the highest spending quartile, SNP bids would average 91 percent of benchmarks. In the lowest spending quartiles, SNP bids would average 96 percent

of alternative benchmarks, which suggests that under a benchmark alternative with a 2 percent discount rate, SNPs would still be able to provide enough extra benefits to be a viable choice for dual-eligible beneficiaries and other beneficiaries with special needs. In addition, under CBO's assumption that plan bids would decrease by half of the decrease in benchmarks, overall SNP bids would average 88 percent of alternative benchmarks. Furthermore, SNPs have consistently been shown, in the Commission's work on MA margins, to have higher margins than other MA plans—suggesting that additional efficiencies are possible for SNPs to maintain the current level of extra benefits offered.

Longer term examination of bids and rebates

Over the long term, using FFS spending as the basis for benchmarks will result in biased benchmarks if the share of FFS enrollees in a county becomes too small. Forty-six percent of Medicare beneficiaries with Part A and Part B

are currently enrolled in MA. Further, the MA share continues to grow and is much higher in some counties. For example, in Miami-Dade county, the share of MA enrollment is now 75 percent. In counties with a small share of Medicare beneficiaries in FFS, benchmarks would become biased if:

- beneficiaries electing FFS Medicare in a county are not representative of Medicare beneficiaries overall (for example, about 90 percent of Medicare FFS beneficiaries have Medigap coverage or employer-sponsored supplemental coverage that can disproportionately reduce cost sharing and induce higher demand), and if the risk adjustment model is biased for this group of enrollees, or
- providers that do not contract with MA plans (or with a small share of MA patients) are overrepresented in a county (e.g., if MA plans avoid volume-inducing providers, such providers could furnish a majority of Medicare FFS care in the area).⁴⁵

In areas with a small share of FFS beneficiaries, modifying benchmarks so that they do not rely on FFS spending could be done by setting benchmarks through one of three general competitive bidding approaches. First, benchmarks could be based on the distribution of MA bids (e.g., the average bid or second-lowest bid). Second, benchmarks could be set through a premium support model in which Medicare would contribute a premium amount covering at least some Medicare coverage options (local FFS Medicare or MA plan options). This model would require beneficiaries to pay an additional premium if they chose an option that was more expensive than Medicare's contribution. The Commission has previously evaluated important considerations for a premium support model (Medicare Payment Advisory Commission 2017). Third, benchmarks could be set as a blend of local area MA bids and FFS spending. Such a benchmark structure would remove the need for some of the considerations discussed earlier (e.g., setting a discount rate), but implementing such a structure immediately could have substantive effects on cost-sharing and premium reductions.⁴⁶ Any competitive bidding approach would need to consider that MA plans may rely on some level of funding above their bids to entice enrollment among beneficiaries who have Medicare FFS with supplemental coverage (Medigap or employer-sponsored coverage).

Over the long term, the Commission may examine the potential for a substantial overhaul of the MA payment

system (e.g., establishing benchmarks through competitive bidding). As noted in the Commission's earlier work, several other aspects of the Medicare program are worth considering in conjunction with such an overhaul, such as redesigning the Medicare benefit, standardizing MA plan options, and comparing quality between MA and FFS Medicare (Medicare Payment Advisory Commission 2017). The approach discussed in this chapter would not preclude such longer term changes to the MA program, but would more immediately address current problems created by MA benchmarks and produce savings to Medicare.

Recommendation

Current benchmark policy has resulted in a robust MA program with plans that are more efficient than local FFS spending, but MA benchmarks have been set at a level that produces unnecessarily wide variation in plan payments and requires Medicare to provide additional funding to MA rather than share in the savings that plans generate. Moving to an alternative benchmarking approach is increasingly important as MA encompasses a growing share of Medicare expenditures and enrollment. In 2020, MA spending was \$317 billion, and 43 percent of MA-eligible beneficiaries were enrolled in an MA plan. Historically high rebates and an increasing number of plan offerings indicate that plans could share some efficiencies with the Medicare program with little adverse effect. Sharing in plan efficiencies is important, particularly given the trust fund solvency and revenue issues that Medicare is projected to encounter in the near future.

Overall, our simulations demonstrate that CMS could feasibly implement an alternative MA benchmark policy that addresses the Commission's concerns about the current system, with little impact on plan participation. Our 50/50 blend of local and national FFS spending sets benchmarks on a continuous scale of local FFS spending while accommodating the availability of MA plans in areas with both high FFS spending and low FFS spending. The vast majority of MA markets had an average bid far below the benchmark calculated under our alternative benchmark policy, suggesting that additional financial pressure could be applied to benchmarks through a 2 percent discount rate. After applying a 2 percent discount rate and a 75 percent rebate, the relative disruption to beneficiary access to MA cost-sharing and premium reduction supplemental coverage would likely be modest.

RECOMMENDATION 1

The Congress should replace the current Medicare Advantage (MA) benchmark policy with a new MA benchmark policy that applies:

- **a relatively equal blend of per capita local area fee-for-service (FFS) spending with price-standardized per capita national FFS spending;**
- **a rebate of at least 75 percent;**
- **a discount rate of at least 2 percent; and**
- **the Commission's prior MA benchmark recommendations—using geographic markets as payment areas, using the FFS population with both Part A and Part B in benchmarks, and eliminating the current pre-Affordable Care Act cap on benchmarks.**

Under this recommendation, MA benchmarks would be an equal weight of local FFS spending and national FFS spending, allowing benchmarks to vary by their local area characteristics but reducing the overall variation in benchmarks relative to current policy. Rebates paid to plans (as a share of the difference between the plan bid and benchmark) for funding extra benefits would be decoupled from the MA quality bonus program and would increase to 75 percent (compared with the current average of 65 percent) for all plans, to create greater incentives for plan efficiency. This recommendation would have no effect on the current quality bonus that is added on to plan benchmarks. A discount rate would reduce the local–national blended spending amounts, explicitly integrating plan efficiency into the benchmark calculation and helping ensure overall program savings. If policymakers decided to apply a discount rate of more than 2 percent, they would also have the option of simultaneously increasing the plan rebate percentage. Benchmarks would be calculated at a local market level (e.g., multicounty areas) instead of at the county level to improve the stability of local area spending calculations. Benchmark calculations would use the FFS population with both Part A and Part B coverage to ensure comparability with the MA-eligible population. Reductions in benchmark subsidies in the lowest spending areas would largely mitigate the current effect of pre-ACA caps on benchmarks, but this recommendation eliminates any effect from those benchmark caps and provides greater consistency and predictability of benchmarks in all low-spending areas.

If policymakers deem a phase-in of the new benchmark policy to be necessary, there are several options that could incorporate new benchmarks immediately in many areas. One option would identify areas with large changes to

benchmarks and give them a three-year phase-in during which two benchmark systems would be maintained, with the new benchmarks incrementally given more weight. A second option would be to fully apply the new benchmarks, but place a limit on year-to-year changes in each payment area (e.g., no more than a 5 percentage point change in any one year). A third option would immediately apply the new benchmarks but phase in the discount rate over a limited time period, such as three years. Once the recommendation is fully implemented, policymakers could consider applying additional financial pressure by gradually applying a benchmark ceiling at 100 percent of local FFS spending.

RATIONALE 1

While the current MA benchmark approach has led to record low bid levels and record high rebates, it has failed to capture program savings and generates imbalances in plan subsidies and the availability of extra benefits across regions. Our recommended MA benchmark policy adheres to the Commission's desire to rebalance MA benchmarks by creating more consistent payment rates geographically, allowing the Medicare program to capture additional MA efficiencies, and maintaining access to MA plans. It would allow Medicare to capture modest savings of at least 2 percent, limit larger subsidies for plans in areas of low FFS spending, and leverage additional savings in areas where plans are most efficient relative to current benchmarks. Beneficiaries would continue to have access to substantial extra benefits, although plans may not necessarily choose to offer current levels of cost-sharing and premium reductions.

IMPLICATIONS 1

Spending

- CBO estimates that this recommendation would reduce program spending relative to current policy by more than \$2 billion over one year and by more than \$10 billion over five years.

Beneficiary and provider

- We do not expect this recommendation to have adverse effects on beneficiaries' access to plans. MA would continue to be a viable alternative for beneficiaries seeking supplemental coverage of cost sharing and lower premiums.
- Some beneficiaries could see modest reduced coverage of extra benefits because some plans will receive lower payments. However, the magnitude of

Prior recommendations by the Commission regarding Medicare Advantage

The recommendation in this chapter incorporates some prior Commission recommendations related to how Medicare Advantage (MA) benchmarks are calculated: eliminating the cap on benchmark amounts implemented by the Affordable Care Act of 2010 (ACA) (March 2016), basing benchmarks on fee-for-service (FFS) spending data only for beneficiaries with both Part A and Part B (March 2017), and establishing a geographic basis for MA payments that reflect health care market areas (initially June 2005). The current recommendation does not incorporate the prior Commission recommendation to eliminate the quality double bonuses, which was recommended concurrently with eliminating benchmark caps. The June 2020 recommendation to replace the quality bonus program did not address the influence of star ratings on rebate payments. (That recommendation addressed only payments associated with the 5 percent and 10 percent bonus increases to benchmarks.) The recommendation in this chapter would replace the current rebate policy under which rebates range from 50 percent to 70 percent of the difference between the plan bid and benchmark (for plans bidding below the benchmark), depending on a plan's star rating, with a rebate equal to 75 percent of the difference between the plan bid and benchmark (for plans bidding below the benchmark).

Benchmark recommendations—The first recommendation in Table 1-8 addresses inequity in the current benchmark system. Benchmark caps generate inequity by limiting benchmarks in certain counties based on pre-ACA spending and thus perpetuate any inequities that existed in pre-ACA benchmarks (Medicare Payment Advisory Commission 2016). Double quality bonuses (a 10 percentage point benchmark increase rather than a 5 percentage point increase) generate inequity given that the differential in payment is not based on differences in quality between qualifying (double-bonus) counties and other counties. The Commission recommended eliminating both policies.

The second recommendation in Table 1-8 addresses a miscalculation in estimating each county's FFS spending. MA enrollees must be enrolled in both Part A and Part B; however, the current benchmark calculation incorporates Part A spending for beneficiaries enrolled only in Medicare Part A, which is significantly lower than for beneficiaries enrolled in both Part A and Part B (and a similar issue exists for beneficiaries enrolled only in Part B). As a result, benchmarks are based on FFS spending estimates that are too low relative to the MA-eligible population. The Commission recommended using FFS beneficiaries enrolled in both

(continued next page)

change in extra benefits depends on plan responses to lower benchmarks. Some plans could choose to reduce profits or otherwise lower their cost of providing the Medicare benefit—that is, they could become more efficient. The Commission has previously found that plans that experience lower benchmarks respond with lower bids to maintain extra benefits for enrollees.

- We expect a small effect on plan participation in MA, with little or no constraint on the plan options currently available. Without any change in bidding behavior, nearly all plan sponsors would be able to offer plans with enough rebate revenue to maintain the same level of cost-sharing and premium reductions as currently exists.

This recommendation incorporates several prior Commission recommendations regarding the MA benchmark, as specified, but is distinct from others (e.g., our 2020 recommendation to revise the MA quality bonus program), which policymakers should consider independently. Interactive effects could alter the estimated payment impact on plans if policymakers consider implementing a combination of recommendations. The text box clarifies which prior recommendations are incorporated into this recommendation and which are independent of this recommendation. ■

Prior recommendations by the Commission regarding Medicare Advantage (cont.)

**TABLE
1–8**

Commission recommendations for changes to current MA payment policy that have not been implemented and the approximate impact on MA payments

Commission recommendation	Approximate impact on MA payments
Eliminate benchmark caps and quality double bonuses—March 2016^{a,b} The Congress should eliminate the cap on benchmark amounts and the doubling of the quality increases in specified counties.	0% (policies offset one another)
Base benchmarks on Part A and Part B—March 2017^a The Secretary should calculate MA benchmarks using FFS spending data only for beneficiaries enrolled in both Part A and Part B.	+1%
Fully account for MA coding intensity—March 2016 The Congress should direct the Secretary to develop a risk adjustment model that uses two years of FFS and MA diagnostic data and does not include diagnoses from health risk assessments from either FFS or MA, and then apply a coding adjustment that fully accounts for the remaining differences in coding between FFS Medicare and MA plans.	–2%
Improve encounter data accuracy and completeness—June 2019 The Congress should direct the Secretary to establish thresholds for the completeness and accuracy of MA encounter data and: <ul style="list-style-type: none"> • rigorously evaluate MA organizations' submitted data and provide robust feedback; • concurrently apply a payment withhold and provide refunds to MA organizations that meet thresholds; and • institute a mechanism for direct submission of provider claims to Medicare administrative contractors as a voluntary option for all MA organizations that prefer this method, starting in 2024, for MA organizations that fail to meet thresholds, or for all MA organizations if program-wide thresholds are not achieved. 	0%
Replace the quality bonus program—June 2020^b The Congress should replace the current MA quality bonus program with a new MA value incentive program that scores a small set of population-based measures, evaluates quality at the local market level, uses a peer-grouping mechanism to account for differences in enrollees' social risk factors, establishes a system for distributing rewards with no "cliff" effects, and distributes plan-financed rewards and penalties at a local market level.	–2%
Establish geographic basis for payment and quality assessment—June 2005, March 2010, March 2018, June 2020^a The Secretary should establish geographic areas for MA quality reporting that accurately reflect health care market areas and should calculate star ratings for each contract at that geographic level for public reporting and for determining quality bonuses.	0%
Note: MA (Medicare Advantage), FFS (fee-for-service). The approximate impact is estimated at the time of the recommendation and may be subject to behavioral responses. ^a The recommendation in this chapter incorporates the following prior recommendations: eliminating the cap on benchmark amounts implemented by the Affordable Care Act of 2010 (does not incorporate the concurrent recommendation to eliminate quality double bonuses), basing benchmarks on FFS spending data only for beneficiaries with both Part A and Part B, and establishing a geographic basis for MA payments that reflect health care market areas. ^b The elimination of double bonuses and its impact on MA payments (–0.6 percent in 2016) is included in two recommendations: eliminate quality double bonuses (March 2016) and replace the quality bonus program (June 2020).	

(continued next page)

Prior recommendations by the Commission regarding Medicare Advantage (cont.)

Part A and Part B to estimate FFS spending for MA benchmarks.

Coding intensity recommendation—The CMS hierarchical condition category model’s reliance on diagnosis codes creates a financial incentive for MA plans to document diagnosis codes more thoroughly than in FFS Medicare. Because the risk adjustment model is based on FFS Medicare data, more thorough diagnostic coding in MA generates greater payment for MA plans than FFS Medicare would have spent for the same beneficiary. After applying a statutory coding intensity adjustment that accounts for a portion of the coding intensity impact, MA plans in 2018 were paid an average of about 2 percentage points to 3 percentage points more than FFS due to diagnostic coding. While the statutory coding intensity adjustment applies equally to all beneficiaries, our analysis found that coding intensity varies significantly across MA contracts: Some contracts were paid greater than 10 percentage points more than FFS spending, and other contracts were underpaid relative to FFS spending. In the third recommendation in Table 1-8 (p. 31), the Commission recommended two policies intended to improve the equity of the coding intensity adjustment and to subsequently apply an adjustment that fully accounts for any remaining coding intensity impact.

Encounter data recommendation—MA plans are required to submit claim-like information about all items and services provided to plan enrollees, and CMS has been collecting the data since 2012. However, our comparisons of encounter data and MA utilization information collected from providers found the encounter data to be incomplete. Complete and accurate encounter data could be used for program oversight and comparisons with FFS to inform Medicare policy. In the fourth recommendation in Table 1-8 (p. 31), the Commission recommended improving encounter data

accuracy and completeness; applying incentives for submitting complete encounter data; and if necessary, establishing an alternative method of collecting MA encounter data directly from providers through Medicare administrative contractors.

Quality- and geographic-based recommendations—The MA quality bonus program is deeply flawed in its evaluation of quality (using too many measures, evaluating at the contract level, and inadequately accounting for social risk factors) and its application to MA payment (applying an all-or-none bonus and adding substantial extra payments for MA plans). In the fifth recommendation in Table 1-8 (p. 31), the Commission recommended replacing the quality bonus program with a value incentive program (VIP) that scores a small set of population-based measures, evaluates quality at the local market level, stratifies enrollees into peer groups with similar social risk factors, distributes rewards or penalties on a continuous scale (with no all-or-none cliffs), and finances rewards and penalties by redistributing plan payments (rather than through additional Medicare spending).

A component of the Commission’s MA–VIP is the use of local markets as the basis for assessing quality. As noted in the last recommendation in Table 1-8 (p. 31), several times since the incorporation of plans bidding in the MA program, the Commission has recommended using a health care market–based geographic unit as the basis for quality assessment and payment. In modeling the MA–VIP, the Commission defined geographic units as metropolitan statistical areas (MSAs) divided at state lines and health service areas (defined by the National Center for Health Statistics) in non-MSA areas for a total of roughly 1,200 geographic areas. Future analysis of MA benchmark policy will use the same geographic areas. ■

Endnotes

- 1 The current MA quality program assesses quality at the contract level, which can span many counties and different quartiles. Therefore, we are unable to provide an accurate assessment of whether MA quality is associated with relative benchmark levels. We have found that 5-star plans bid lower relative to FFS compared with other plans.
- 2 Qualifying counties are those that were in a metropolitan statistical area with a population of 250,000 in 2004, had at least 25 percent of MA-eligible beneficiaries enrolled in an MA plan in December 2009, and have FFS spending that is less than the national average FFS spending in the payment year.
- 3 The applicable amount is the rate established under Section 1853(k)(1) of the Act. For 2022, CMS intends to rebase the rates, making the applicable amount for 2022 the greater of (1) the county's 2022 FFS cost or (2) the 2021 applicable amount increased by the 2022 National Per Capita Medicare Advantage Growth Percentage. Section 1853(n)(4) of the Act requires that the benchmark (determined taking into account the quality bonus percentage increase) for each county must be capped at the county's applicable amount.
- 4 Private plan contracting existed in Medicare before the implementation of TEFRA, but was limited to less-than-full-risk-bearing arrangements or demonstration projects using full-risk contracting (Zarabozo 2000).
- 5 The AAPCC included adjustments for age, sex, disability status, Medicaid status, institutional status, and county of residence.
- 6 Plans were also allowed to provide additional benefits and charge a premium for those benefits (such as preventive care not covered by Medicare, which HMOs traditionally provided).
- 7 In addition to the risk adjustment changes, the BBA provided that plan payments for a county would be set at the highest of three payment "prongs," consisting of a minimum update from the previous year, a floor amount, and a national-local blended amount. The blended payment used a Part A and Part B input-price-adjusted national FFS amount, with the national share phased in until reaching 30 percent in 2002. In 2004, with the elimination of a budget neutrality requirement affecting the blended rate, during the last year in which the blended rate was applicable, 322 counties had a national-local blended rate as the basis of their plan payment rates. The blended rates could still have had an effect on Medicare Advantage (MA) benchmarks through 2010 (the year of the Affordable Care Act of 2010 (ACA) changes) because, beginning in 2005, benchmarks were set at the higher of 100 percent of FFS or a minimum percentage increase over the preceding year's rate, which could have been based on a 2004 blended rate. Similarly, the blended rates can have an effect on the pre-ACA benchmark caps that are currently in place.
- 8 The Balanced Budget Act of 1997 and the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 required improvements to the risk-adjustment model used for MA payments. Revisions to the risk-adjustment model incorporated demographic information and diagnoses from hospitals (inpatient and outpatient) and physician office visits to account for differences in the expected cost of MA enrollees.
- 9 In addition, the BBA of 1997 allowed preferred provider organizations, provider-sponsored organizations, and private fee-for-service (PFFS) plans to have Medicare risk contracts. PFFS plans were not expected to be more efficient than traditional FFS and were the only plan type allowed to charge Medicare enrollees an additional premium to cover the plans' cost of providing the Medicare benefit package. To the extent that the principle of paying at 95 percent had been based on an expectation that HMOs could be more efficient than traditional FFS, the BBA of 1997 retreated from the original expectations for efficiency by allowing other types of private plans to contract with the Medicare program and establishing a defined Medicare contribution for PFFS plans.
- 10 The MMA expanded the application of a defined Medicare contribution (with a beneficiary premium covering costs above the contribution amount) to all plan types; previously, it was applicable only to PFFS plans.
- 11 Payments to MA plans in 2004 would have been 3 percent above FFS under pre-MMA policy, but were 7 percent above FFS under MMA policy (Medicare Payment Advisory Commission 2006).
- 12 CMS applies a statutory coding adjustment to MA payments. After accounting for this adjustment, we estimate that MA plans in 2019 were paid an average of about 3 percentage points more than FFS due to diagnostic coding.
- 13 As of February 2021, 46 percent of all Medicare beneficiaries with both Part A and Part B coverage were enrolled in MA plans.
- 14 This estimate assumes, conservatively, that the impact of coding intensity in 2021 is the same as in 2019 (the most recent year for which we analyzed coding intensity). The coding intensity trend from 2017 to 2019 suggests that the impact in 2021 is higher than in 2019.

- 15 MA projected enrollment in plan bids is generally consistent with actual enrollment. Among all MA enrollees in 2020 (including employer plans), 26 percent resided in the areas within the lowest quartile of FFS spending.
- 16 Beneficiary eligibility to join an MA plan requires enrollment in both Part A and Part B. Because 9 percent of Medicare beneficiaries do not meet this requirement, MA enrollment as a share of the Medicare population would be higher if the 9 percent were not included in the denominator. In 2020, 43 percent of all Medicare beneficiaries with Part A and Part B coverage enrolled in an MA plan.
- 17 In this example, neither county's rate is limited by the ACA benchmark caps.
- 18 Beneficiaries with high medical costs may experience higher liability for those costs in MA (assuming they have not exceeded their out-of-pocket limit) than Medicare FFS (without Medigap coverage). In 2020, nearly two-thirds of MA enrollees were in a plan that required higher cost sharing than the Part A hospital deductible in Medicare FFS for a 7-day inpatient stay, and 72 percent of enrollees were in a plan that required higher cost sharing than FFS for a 10-day inpatient stay (Freed et al. 2020).
- 19 Historically, Part B premium reductions have not been as transparent through Medicare's plan finder tool compared with Part D premiums (Medicare Payment Advisory Commission 2015, Stockley et al. 2014).
- 20 When submitting Part D bids, plans may allocate administrative expenses and margin toward the Part D revenue that results from projected Part C rebates.
- 21 The share of MA enrollees in plans that reduce Part B spending does not include employer plans and special needs plans, which have restrictions on enrollment and do not have the same incentives to reduce Part B premiums.
- 22 Medicare does not cover annual physical exams. However, unlike other MA supplemental benefits, diagnoses from annual physical exams are eligible for increases to beneficiary risk scores. In addition, coverage for annual physical exams may satisfy the desires of beneficiaries who seek a more thorough examination than an annual wellness visit.
- 23 The most commonly offered hearing benefit was for a routine hearing exam. However, the U.S. Preventive Services Task Force recently concluded that the benefits and harms of screening for hearing loss in asymptomatic older adults are uncertain and that the balance of benefits and harms cannot be determined due to lack of evidence (U.S. Preventive Services Task Force 2021).
- 24 Some beneficiaries may have at least limited Medicare or Medicaid coverage for these benefits. For example, beneficiaries with diabetes have some exam and eyewear coverage; beneficiaries with Medicaid coverage may receive some dental coverage.
- 25 Self-reported results from the 2016 Medicare Current Beneficiary Survey indicate that coverage for these benefits did not result in substantially different use of dental, vision, or hearing services among non-dual-eligible MA beneficiaries with and without the coverage (Willink et al. 2020).
- 26 This study examined 2018 dental claims for MA plans covering 1.9 million beneficiaries and found that only 12 percent of plan enrollees with embedded dental coverage used the benefit (Wix and Fontana 2020). The higher share of self-reported dental usage in the Medicare Current Beneficiary Survey (Willink et al. 2020) suggests some beneficiaries are using out-of-network dental services.
- 27 This study examined claims from 2008 to 2016 for 114,862 adults ages 66 and older who were continuously enrolled in the same private plan for at least 3 years following an initial diagnosis of hearing loss. Only 12 percent of these enrollees received any services related to a hearing aid. Similarly, self-reported results from the 2016 Medicare Current Beneficiary Survey indicate that only 12 percent of Medicare beneficiaries with hearing problems visited an audiologist, and only 8 percent of non-dual-eligible MA beneficiaries had a hearing-related visit (Willink et al. 2020). Self-reported longitudinal results from the National Health Aging and Trends Study indicate that between 2011 and 2018, hearing aid use among participants rose from 15.0 percent to 18.5 percent (Reed et al. 2021).
- 28 In 2021, 84 percent of projected MA enrollees in general enrollment plans had some type of hearing aid coverage.
- 29 Self-reported results from the 2016 Medicare Current Beneficiary Survey indicate that MA beneficiaries with supplemental coverage for dental, vision, and hearing services were liable for most of the cost of these services through out-of-pocket spending (Willink et al. 2020).
- 30 It is unclear whether beneficiaries are aware of all the extra benefits available to them or whether they are choosing to use services outside of plan networks. For example, membership warehouses and some retail stores offer discounted vision and hearing services and hardware (e.g., lenses, frames, and hearing aids).
- 31 Our category of supplemental benefits that target high-needs beneficiaries are those specific to beneficiaries with high medical or social needs. For example, while plan supplemental benefits for some over-the-counter items (e.g., cold medicine and adhesive bandages) and remote access

- technologies (e.g., web- or phone-based access to a nurse that does not supplant services by a beneficiary's provider) are useful to high-needs beneficiaries, they are benefits that are likely to be used by any enrollee.
- 32 Among general MA plans, 13 percent of projected enrollees were in a plan that used at least one benefit flexibility.
 - 33 Nearly half (48 percent) of projected D–SNP enrollees were in a plan that used at least one benefit flexibility.
 - 34 Among general MA plans, 13 percent of projected MA enrollees were in a plan that offered any SSBCI. In contrast, 30 percent of projected D–SNP enrollees were in a plan that offered any SSBCI. The most common of the SSBCI among D–SNPs was food and produce, with 22 percent of projected D–SNP enrollees in a plan that offered this benefit.
 - 35 Local area spending is the mean per capita FFS spending in each area; national spending represents national service use at standardized wages. To estimate national spending, we used CMS's U.S. per capita cost (USPCC) estimate for 2020 and adjusted this number to standardize prices (i.e., eliminate adjustments made to FFS payments by hospital wage indexes and geographic practice cost indexes) and to remove extra payments to hospitals that are carved out of the current county-level MA benchmarks (i.e., graduate medical education and indirect medical education). Alternatively, policymakers could define national spending as the median of local area per capita FFS spending, which would similarly establish a single national spending estimate that would be blended with local FFS spending. Using median local area FFS spending rather than the national mean per capita spending would better align with overall MA payments when per capita county-level spending is not normally distributed.
 - 36 To estimate FFS spending for beneficiaries with both Part A and Part B, we apply a factor to FFS spending in each county that accounts for the difference in risk-standardized spending between all FFS beneficiaries and beneficiaries enrolled in both Part A and Part B. We calculated this factor based on 2016 and 2017 claims data.
 - 37 Our analysis excludes employer group plans and regional preferred provider organizations (PPOs). The Commission's alternative benchmark approach would not affect the current method for employer group plan payment. These payments are based on the bids of all MA plans and adjusted for the weight of employer group enrollment by plan type (HMO, PPO). Thus, we would expect the payment impact of this alternative benchmark approach to be similar between employer plans and other MA plans. An alternative benchmark approach would not affect regional PPOs. Benchmarks for these plans are set through an entirely different structure. Regional PPO benchmarks are a blend between regional PPO bids and FFS spending within a region (encompassing one or more states). Weighting of the blend is based on the national MA market share.
 - 38 Many health services researchers acknowledge some degree of "spillover" from different payers or alternative payment models, although the magnitude of such spillover is difficult to quantify and subject to debate.
 - 39 One exception for a floor and ceiling could be in U.S. territories, such as Puerto Rico. Because the Medicare coverage in Puerto Rico is atypical of the mainland, our simulations used a ceiling of 115 percent of local FFS spending for Puerto Rico.
 - 40 The national portion of the blended benchmarks adjusts the local spending estimates toward a predictable central point. Altering the national portion of the blend to incorporate local (nonstandardized) wages would create peaks and valleys relative to local FFS spending that are similar to current benchmark policy, but would, in many cases, be larger than the discontinuities in current policy. In addition, incorporating a local wage adjustment into the national spending estimate, even with a ceiling at the U.S. per capita cost, would cause benchmarks to rise. On average, high-wage areas have higher per capita service use than low-wage areas. Thus, allowing the national spending estimate to fully reflect local wages would increase overall benchmarks above current base benchmarks.
 - 41 Metropolitan counties are grouped into a MedPAC market area if they are located in the same state and the same metropolitan statistical area. Nonmetropolitan counties are grouped into a MedPAC market area if they are located in the same state and the same health service area as defined by the National Center for Health Statistics. States can have multiple nonmetropolitan MedPAC market areas.
 - 42 These choices are not to diminish the value of other types of supplemental benefits (e.g., hearing aids, vision benefits) for those beneficiaries who need and use them. Rather, the choices reflect the fact that cost-sharing and premium reductions are made available to and used by all enrollees in the plans that offer these benefits, and they are relatively readily quantifiable.
 - 43 On a per county basis, an average of three plan sponsors in the lowest spending quartile offered plans that would have sufficient rebate dollars to cover cost-sharing and premium reductions under an alternative benchmark structure that includes a 2 percent discount rate.
 - 44 Our simulation of plan access indicates that plan competition would continue to be robust under the alternative benchmark structure. In conjunction with the Commission's prior MA recommendations on quality and risk adjustment, we would expect ample opportunities for locally or regionally based MA plans to compete with national MA plans. To the extent that

local MA plans provide better quality in their market, the Commission's recommendation on the MA–VIP results in a more equitable approach for these plans relative to current policy. In addition, the Commission's recommendations to calibrate the risk adjustment model using two years of data and limit the application of health risk assessments in risk scores would provide a more equitable approach for plans that have limited resources to capture additional revenue through coding.

- 45 For example, the Commission has found that the risk adjustment model tends to underpredict spending for beneficiaries with no medical conditions (Medicare Payment

Advisory Commission 2020). If a disproportionate share of FFS beneficiaries in a county had no medical conditions, the risk-adjusted average FFS spending estimate would be too high.

- 46 We simulated a blend of 2020 county-level MA bids and FFS spending and found that such a benchmark structure would save 5 percent relative to current base benchmarks (assuming no change in plan bidding behavior). When capping the MA blend at 50 percent, savings were 4 percent relative to current base benchmarks.

References

- Boccuti, C., G. Jacobson, K. Orgera, et al. 2018. *Medigap enrollment and consumer protections vary across states*. Washington, DC: Kaiser Family Foundation. <https://www.kff.org/medicare/issue-brief/medigap-enrollment-and-consumer-protections-vary-across-states/>.
- Brown, R. S., J. W. Bergeron, D. G. Clement, et al. 1993. *The Medicare risk program for HMOs—Final summary report on findings from the evaluation*. Princeton, NJ: Mathematica Policy Research Inc.
- Congressional Budget Office. 2018. *Options for reducing the deficit: 2019 to 2028*. Washington, DC: CBO.
- Freed, M., A. Damico, and T. Neuman. 2020. *A dozen facts about Medicare Advantage in 2020*. Washington, DC: Kaiser Family Foundation. <https://www.kff.org/medicare/issue-brief/a-dozen-facts-about-medicare-advantage-in-2020/>.
- Jacobson, G., R. Fehr, C. Cox, et al. 2019a. *Financial performance of Medicare Advantage, individual, and group health insurance markets*. Washington, DC: Kaiser Family Foundation.
- Jacobson, G., T. Neuman, and A. Damico. 2019b. *Do people who sign up for Medicare Advantage plans have lower Medicare spending?* Washington, DC: Kaiser Family Foundation.
- Jacobson, G., T. Neuman, and A. Damico. 2016. *Medicare Advantage plan switching: Exception or norm?* Washington, DC: Kaiser Family Foundation.
- Jacobson, G., C. Swoope, M. Perry, et al. 2014. *How are seniors choosing and changing health insurance plans? Findings from focus groups with Medicare beneficiaries*. Washington, DC: Kaiser Family Foundation.
- Langwell, K. M., and J. P. Hadley. 1990. Insights from the Medicare HMO demonstrations. *Health Affairs* 9, no. 1 (Spring): 74–84.
- Langwell, K. M., and J. P. Hadley. 1986. Capitation and the Medicare program: History, issues, and evidence. *Health Care Financing Review*, annual supplement: 9–20.
- Mahmoudi, E., T. Basu, K. Langa, et al. 2019. Can hearing aids delay time to diagnosis of dementia, depression, or falls in older adults? *Journal of the American Geriatrics Society* 67, no. 11 (November): 2362–2369.
- McDermott, D., L. Stolyar, C. Cox, et al. 2020. *Health insurer financial performance through September 2020*. Washington, DC: Kaiser Family Foundation.
- McGuire, T. G., J. P. Newhouse, and A. D. Sinaiko. 2011. An economic history of Medicare Part C. *Milbank Quarterly* 89, no. 2 (June): 289–332.
- McWilliams, J. M., J. Hsu, and J. P. Newhouse. 2012. New risk-adjustment system was associated with reduced favorable selection in Medicare Advantage. *Health Affairs* 31, no. 12 (December): 2630–2640.
- Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2018. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2017. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2016. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2015. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2012. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2010. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2009. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2006. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2005. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2000. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 1998. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Meyers, D. J., E. Belanger, N. Joyce, et al. 2019. Analysis of drivers of disenrollment and plan switching among Medicare Advantage beneficiaries. *JAMA Internal Medicine* 179, no. 4 (April 1): 524–532.

Mike, D., J. Friedman, and G. Yilmaz. 2019. *Average annual beneficiary health care costs for various Medicare coverage options*. Seattle, WA: Milliman.

Newhouse, J. P. 2002. *Pricing the priceless: A health care conundrum*. Cambridge, MA: MIT Press.

Newhouse, J. P., W. G. Manning, E. B. Keeler, et al. 1989. Adjusting capitation rates using objective health measures and prior utilization. *Health Care Financing Review* 10, no. 3 (Spring): 41–54.

Newhouse, J. P., M. Price, J. Huang, et al. 2012. Steps to reduce favorable risk selection in Medicare Advantage largely succeeded, boding well for health insurance exchanges. *Health Affairs* 31, no. 12 (Dec): 2618–2628.

Prochazka, A. V., and T. Caverly. 2013. General health checks in adults for reducing morbidity and mortality from disease: Summary review of primary findings and conclusions. *JAMA Internal Medicine* 173, no. 5 (March 11): 371–372.

Reed, N. S., E. Garcia-Morales, and A. Willink. 2021. Trends in hearing aid ownership among older adults in the United States from 2011 to 2018. *JAMA Internal Medicine* 181, no. 3 (March 1): 383–385.

Riley, G., C. Tudor, Y. P. Chiang, et al. 1996. Health status of Medicare enrollees in HMOs and fee-for-service in 1994. *Health Care Financing Review* 17, no. 4 (Summer): 65–76.

Skopec, L., S. Zuckerman, E. Allen, et al. 2019. *Why did Medicare Advantage enrollment grow as payment pressure increased?* Washington, DC: Urban Institute.

Society of General Internal Medicine. 2017. SGIM—General health checks for asymptomatic adults. <https://www.choosingwisely.org/clinician-lists/society-general-internal-medicine-general-health-checks-for-asymptomatic-adults/>.

Song, Z., M. B. Landrum, and M. E. Chernew. 2013. Competitive bidding in Medicare Advantage: Effect of benchmark changes on plan bids. *Journal of Health Economics* 32, no. 6 (December): 1301–1312.

Song, Z., M. B. Landrum, and M. E. Chernew. 2012. Competitive bidding in Medicare: Who benefits from competition? *American Journal of Managed Care* 18, no. 9 (September): 546–552.

Stockley, K., T. McGuire, C. Afendulis, et al. 2014. *Premium transparency in the Medicare Advantage market: Implications for premiums, benefits, and efficiency*. NBER working paper no. 20208. Cambridge, MA: National Bureau of Economic Research.

U.S. Preventive Services Task Force. 2021. Screening for hearing loss in older adults. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hearing-loss-in-older-adults-screening#fullrecommendationstart>.

Willink, A., N. S. Reed, B. Swenor, et al. 2020. Dental, vision, and hearing services: Access, spending, and coverage for Medicare beneficiaries. *Health Affairs* 39, no. 2 (February): 297–304.

Wix, D., and J. E. Fontana. 2020. *Understanding dental costs and utilization in the Medicare Advantage population*. Seattle, WA: Milliman.

Zarabozo, C. 2000. Milestones in Medicare managed care. *Health Care Financing Review* 22, no. 1 (Fall): 61–67.

C H A P T E R

2

**Streamlining CMS's
portfolio of alternative
payment models**

R E C O M M E N D A T I O N

- 2** The Secretary should implement a more harmonized portfolio of fewer alternative payment models that are designed to work together to support the strategic objectives of reducing spending and improving quality.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

Streamlining CMS's portfolio of alternative payment models

Chapter summary

In 2021, CMS expects to operate 12 alternative payment models (APMs) offering 25 distinct tracks for providers to choose from that involve different payment options and risk arrangements. Most of CMS's APMs are operated by its Center for Medicare and Medicaid Innovation (CMMI), which was established in 2010 by the Affordable Care Act (ACA) to implement and study new payment and care delivery models. CMS's largest APM, however, is the Medicare Shared Savings Program (MSSP), which was created as a permanent program by the ACA and is not operated by CMMI; providers serving about 20 percent of Medicare beneficiaries participate in this APM. Interest in APMs likely increased when the Congress created a 5 percent bonus in the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) for clinicians who participate in APMs that involve some financial risk—known as advanced APMs (A-APMs).

CMMI's APMs are temporary demonstrations that can be expanded into permanent programs only if they are found to reduce spending in Medicare, Medicaid, or the Children's Health Insurance Program while preserving care quality, or found to improve care quality without increasing spending. In CMMI's first 10 years, almost all of its accountable care organization (ACO) and episode-based payment models generated gross savings for the Medicare program before model payments (e.g., performance bonuses) were taken into account. This promising indicator suggests that the models' incentives

In this chapter

- Background
- The impacts of alternative payment models
- Why pursue APMs?
- Factors that may be limiting the success of APMs
- Unintended consequences of implementing multiple concurrent APMs
- Recommendation

encouraged provider organizations to induce clinicians to alter their care patterns—changing the quantity or the mix of health care services they furnish or prescribe. Many APMs implemented so far have yielded sufficiently promising results or sufficiently actionable lessons learned that they have been refined and relaunched as successor models under new names.

After bonuses are paid to model participants, gross savings are reduced, and in some cases Medicare expenditures in APMs exceed, what they would have been otherwise. However, some of the APMs that have generated gross savings have also generated net savings for Medicare even after model payments are taken into account. Models that have yielded net savings include two early ACO models, the MSSP (in some years, at least), and a track of the ACO Investment Model (AIM) that helped new MSSP ACOs form in areas with few other ACOs. The Comprehensive Care for Joint Replacement Model for hip and knee replacements also yielded net savings.

In many cases, providers participate in multiple CMS APMs simultaneously, and Medicare beneficiaries are attributed to multiple models at the same time. This overlapping participation can have unintended consequences. For instance, savings that are generated for a beneficiary served by different sets of providers participating in different APMs can be allocated to providers in only one of these models, thus diluting financial incentives in the other models. Overlapping participation can also make it difficult for evaluators to accurately assess the impact of a given payment model on program spending and quality.

The Commission has a long record of supporting efforts to improve and expand value-based care, and CMS is to be commended for the vigor with which it has approached its mandate of implementing a wide variety of APMs over the last 10 years. The agency's ability to test innovative models was constrained before the creation of CMMI, so the strategy of implementing a plethora of models over the last decade has given the agency an opportunity to build up the evidence base about what works and what does not. While this strategy has yielded valuable information, the Commission contends that continuing to test a large number of independent APMs is likely to inhibit the ability of APMs to reach their full potential. We therefore recommend that CMS now take a more holistic approach that involves implementing a smaller, more harmonized portfolio of APMs that are designed to work together.

A smaller portfolio of models could result in less overlap between different models; where overlap does exist, models should be designed to have incentives that do not

diminish in strength when combined with other models. To minimize complexity, the payment models in CMS's portfolio could use consistent model parameters (e.g., consistent methods for calculating spending targets and measuring quality). This smaller portfolio would need to include the MSSP, which is the largest alternative payment model in Medicare. The Secretary has wide discretion in setting and changing the features of this permanent program, so changes could be made administratively, if needed, to bring MSSP in line with the features of the new smaller set of coordinated payment models.

Operating a smaller portfolio of more harmonized models, with more consistent parameters and clearer and more aligned incentives, should more successfully encourage providers to furnish care efficiently across the continuum of care, which could, in turn, decrease Medicare spending. Beneficiaries could also benefit from a streamlined, more harmonized suite of models if this approach causes providers to better manage their care and results in improved quality and health outcomes. ■

Background

Established by Section 3021 of the Affordable Care Act (ACA) of 2010, the Center for Medicare and Medicaid Innovation (CMMI) effectively replaced CMS's Office of Research, Development, and Information, which had been created several decades earlier to develop demonstrations to test alternative payment arrangements and other initiatives (Cassidy 2008). CMMI is charged with testing "innovative payment and service delivery models" to reduce spending in Medicare, Medicaid, or the Children's Health Insurance Program (CHIP) while preserving or enhancing the quality of care furnished to beneficiaries in these programs.

CMMI is directed to develop models where there is evidence of "deficits in care leading to poor clinical outcomes or potentially avoidable expenditures" and to "focus on models expected to reduce program costs ... while preserving or enhancing the quality of care" (Public Law 111–148). Within these parameters, CMMI has wide latitude in the types of models it implements, although the law includes some optional guidance to CMMI: descriptions of 27 potential models that CMMI could implement (e.g., paying providers to use decision-support tools to improve patients' understanding of treatment options) and a set of 8 features that could be considered for inclusion in models (e.g., using a regular process to monitor and update patient care plans).

CMMI's life cycle for models (shown in Figure 2-1, p. 46) begins with soliciting ideas from internal and external stakeholders, and it includes evaluating concepts for proposed models in the context of the current portfolio of models, getting draft models approved by the Department of Health and Human Services and the White House's Office of Management and Budget, and contracting with organizations to support implementation of the model (e.g., through learning systems that may be offered to participating providers), among other steps (Government Accountability Office 2018).

CMMI is directed to release public reports that evaluate the performance of each model, including analyses of changes in the quality of care and in spending on Medicare, Medicaid, or CHIP. The law is largely silent about how these evaluations should be conducted, other than to require inclusion of quality measures that reflect "national priorities for quality improvement and patient-centered care."

In its first decade, CMMI approached its mandate with alacrity, building up the evidence base on innovative payment and care delivery models by operating 54 models over this period (Smith 2021). Some of the models that CMMI has implemented are required by specific provisions in statute (e.g., the Independence at Home demonstration), while most others have been developed by CMMI through its model development authority contained in the ACA. CMMI is able to implement so many models at once because it is funded through a mandatory appropriation of \$10 billion every 10 years, in perpetuity, and all unused funds remain available until expended. CMMI's first \$10 billion in funding covered 2011 to 2019, and it gained access to its second \$10 billion in 2020.

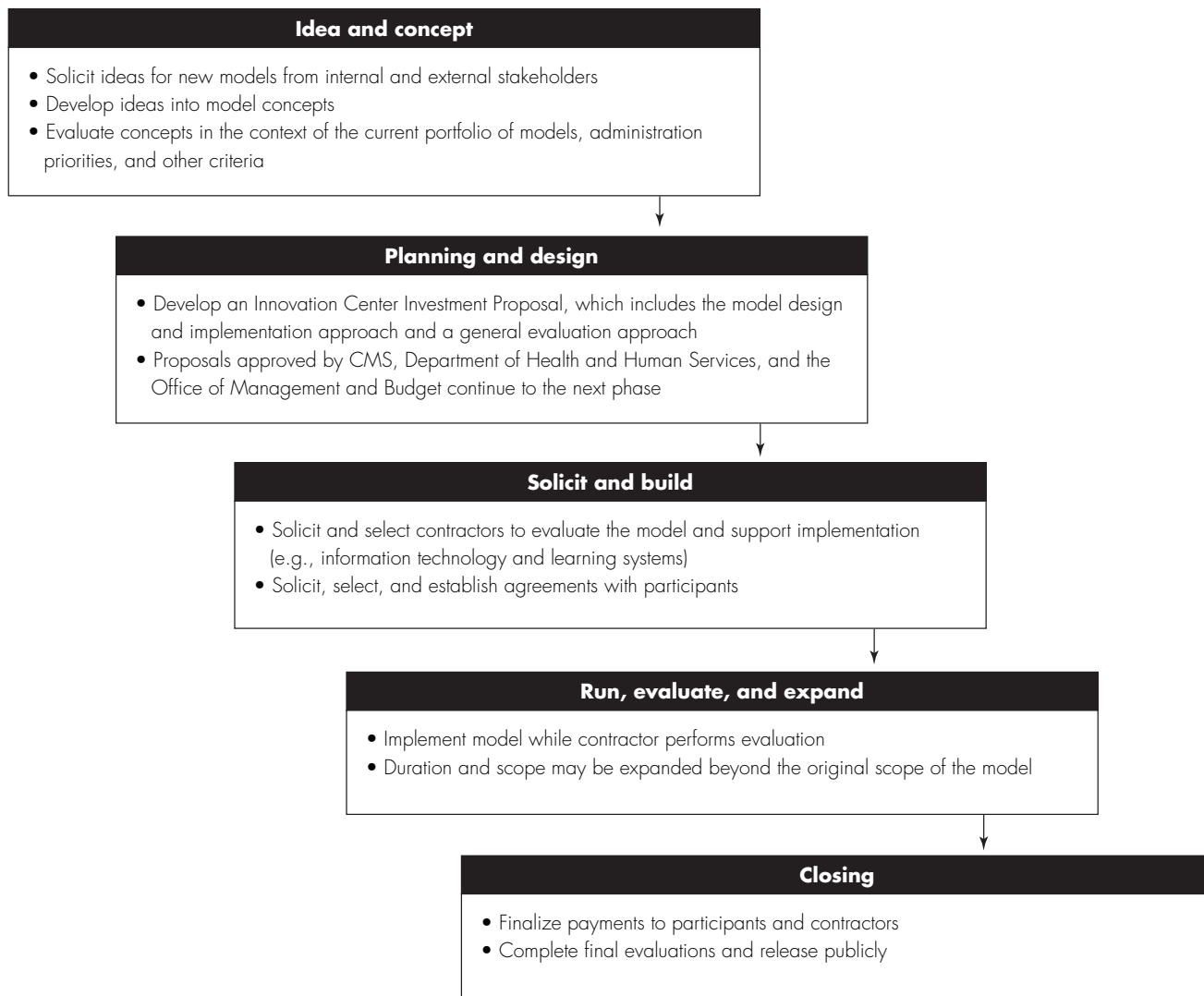
The basic paradigm reflected in CMMI's authorizing statute is that models should be "tested" on a temporary basis before being expanded into larger, permanent programs (Public Law 111–148). CMMI's statute specifies that only those models that meet the following criteria can be expanded in duration or scope:

- the Secretary determines that such expansion is expected to—
 - reduce spending without reducing the quality of care or
 - improve quality without increasing spending;
- the Chief Actuary of CMS certifies that model expansion would reduce (or would not increase) net program spending under Medicare, Medicaid, or CHIP; and
- the Secretary determines that model expansion would not deny or limit the coverage or provision of benefits to Medicare, Medicaid, or CHIP beneficiaries.

CMMI is permitted to modify or terminate a model during its implementation period if the model is not expected to improve quality without increasing spending, or is not expected to reduce spending without reducing quality, or is not expected to improve quality while reducing spending. Mid-course changes can be burdensome for providers to keep track of and adjust to, and substantial mid-course changes can complicate model evaluations. Yet mid-course changes can accomplish many worthwhile objectives. Changes can help prevent participating providers from exiting a model; they can increase payment accuracy, such as by giving providers partial credit for managing

**FIGURE
2-1**

CMMI process for model development, implementation, and evaluation



Note: CMMI (Center for Medicare and Medicaid Innovation).

Source: Government Accountability Office 2018.

a beneficiary's care for part of a year; they can correct unforeseen problems with the way model parameters were designed; and they can reduce Medicare's financial losses by limiting problematic behavioral responses caused by unintended consequences of models' designs.

CMMI's general practice has been to operate a model for about five years and then either abandon the approach or relaunch a revised version of the model under a new name. Deploying second-generation models enables CMMI to continue operating, and apply lessons learned

from, a model that has hit the five-year mark but has not met the law's criteria for expansion. It also allows CMMI to identify flaws with a model that can subsequently be addressed to produce a more successful model. For example, after the Advance Payment Accountable Care Organization (ACO) Model generated net losses for Medicare, CMMI launched a successor called the ACO Investment Model that generated some of the largest net savings per beneficiary of any CMMI model to date (see Table 2-1, pp. 51–53).¹ Because CMMI's authorizing statute does not require models to meet particular criteria

before they are relaunched as revised models, CMMI can assess a model's promise holistically—taking into account not only spending and quality results but also other metrics such as findings from provider surveys, interviews, and beneficiary focus groups, as well as whether participating providers opted to remain in the model throughout its duration or dropped out midway.

CMMI organizes its models and initiatives into seven categories based on delivery and payment approaches and program beneficiaries who are covered. The first three of these categories—accountable care models, episode-based payment models, and primary care transformation models—are what are typically thought of as alternative payment models (APMs) because they alter the way clinicians are paid. In 2021, CMS expects to operate 12 APMs offering 25 distinct tracks for providers to choose from that involve different payment options and risk arrangements. A few other APMs were previously announced but are now under review by the new administration or have been otherwise delayed. CMMI's four other categories of initiatives include technical assistance to providers, studies of new care models supported through grants or fee-for-service (FFS) billing codes, and efforts to incentivize better management of beneficiaries dually enrolled in Medicare and Medicaid or those in Medicaid or CHIP. CMMI's seven categories of models and initiatives are:

- **Accountable care models**—models that hold groups of providers accountable for the total cost and quality of care furnished to a defined population of patients (e.g., the Next Generation ACO Model);
- **Episode-based payment models**—models that hold providers accountable for the cost and quality of care received by beneficiaries during a limited period of time following a triggering clinical event (e.g., the Bundled Payments for Care Improvement Advanced Model);
- **Primary care transformation models**—models that use advanced primary care practices (e.g., the patient-centered medical home model of care) to emphasize prevention, care coordination, and shared decision-making between patients and providers (e.g., the Comprehensive Primary Care Plus Model);
- **Initiatives to speed the adoption of best practices**—models in which CMMI collaborates with providers, federal agencies, and other stakeholders to test ways

to disseminate evidence-based practices (e.g., the Partnership for Patients, which offered hospitals technical assistance aimed at reducing hospital-acquired conditions);

- **Initiatives to accelerate the development and testing of new payment and service delivery models**—models in which CMMI works with stakeholders to test state-based and locally developed models (e.g., the State Innovation Models initiative, which funded states' efforts to develop multipayer models, and the Emergency Triage, Treat, and Transport Model, which allows ambulances to bill for treatment-in-place by a health care practitioner or transport patients to low-acuity settings);
- **Initiatives focused on beneficiaries who are dually enrolled in Medicare and Medicaid**—models focused on serving in a cost-effective manner those individuals eligible for both Medicare and Medicaid (e.g., the Financial Alignment Initiative for Medicare-Medicaid Enrollees, which tests models that aim to better integrate the two programs); and
- **Initiatives focused on the Medicaid and CHIP populations**—models administered by states to reduce spending and improve quality for Medicaid and CHIP beneficiaries (e.g., the Strong Start for Mothers and Newborns Initiative, which tested enhanced prenatal and maternity care models).

Providers typically must apply to participate in an APM implemented by CMMI, and CMMI does not necessarily accept all applicants into its models. CMMI's APMs are sometimes available only to providers in particular geographic regions, while other models are available nationwide. APMs are usually voluntary, since CMMI has experienced resistance from providers when it has tried to make provider participation mandatory.

MACRA's influence on alternative payment models

In the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), Congress created new incentives for clinicians to participate in payment models that qualify as advanced APMs (A-APMs). A-APMs are distinct from other payment and delivery models in that they:

- require providers to bear “more than nominal” financial risk if their patients' actual spending exceeds their expected spending;

CMS's 2021 advanced alternative payment models

Eleven of CMMI's alternative payment models (APMs) include model tracks that qualify as advanced APMs (A-APMs) and thus allow their participating clinicians to earn the annual 5 percent bonus payment available under the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).²

- **Medicare Shared Savings Program (MSSP).** Several tracks (or levels of tracks) qualify as A-APMs:
 - *Track 1+ Model.* Time-limited model under which organizations assume less downside risk than other, more advanced tracks.
 - *Level E of the Basic track.* Final level of the Basic track's glide path that transitions accountable care organizations (ACOs) to a higher level of downside risk and potential reward, designed to be the same as the level of risk and potential reward as under the Track 1+ Model.

- *Enhanced track (formerly Track 3), Legacy Track 2.* Participating ACOs take on more downside risk than other MSSP tracks or levels and can share in a higher portion of savings.
- **Next Generation ACO Model.** ACO model that involves more financial risk than the MSSP, with participating providers subject to either 80 percent or 100 percent shared savings and losses.
- **Global and Professional Direct Contracting Model.** Successor to the Next Generation ACO Model offers primary care capitation payments coupled with 50 percent shared savings or losses (in the "professional" option) or choice of primary care capitation or full capitation coupled with 100 percent shared savings or losses (in the "global" option) (for more on this new model, see text box on direct contracting, p. 50).

(continued next page)

- require providers to use electronic health record (EHR) technology certified by the Office of the National Coordinator for Health Information Technology (ONC); and
- use quality measures comparable with those used in the Merit-based Incentive Payment System (MIPS), which was also created in MACRA.

Clinicians with a certain share of patients or payments in A-APMs qualify for an annual 5 percent bonus that is temporarily available from Medicare from 2019 through 2024 and are exempt from MIPS's reporting requirements and positive or negative payment adjustments. The A-APMs operating in 2021 are shown in the text box (Centers for Medicare & Medicaid Services 2020). CMS estimates that A-APM bonus payments will be worth an average of \$3,636 per clinician in 2021 (Centers for Medicare & Medicaid Services 2018). Starting in 2026, clinicians in A-APMs will qualify for higher annual

updates to their physician fee schedule payment rates (0.75 percent) than clinicians not in A-APMs (0.25 percent).

Not every APM operated by CMS is designed and implemented by CMMI. The largest APM, the Medicare Shared Savings Program (MSSP), was established as a permanent program by the ACA and is not administered by CMMI. About a third of traditional FFS Medicare beneficiaries with both Part A and Part B are attributed to a provider participating in the MSSP (Medicare Payment Advisory Commission 2020). The broad reach of the MSSP means CMMI must consider how each of its APMs will interact with this larger program, which is complicated by the fact that the MSSP has numerous tracks for providers to choose from, and its features can change from year to year.

MACRA's 5 percent bonus and higher payment updates for clinicians in A-APMs likely increased clinician interest in A-APMs, and in the development of more A-APMs suitable for specialists. (Primary care providers

CMS's 2021 advanced alternative payment models (cont.)

- **Comprehensive ESRD Care Model—Two-sided risk tracks.** Shared savings model for dialysis clinics, nephrologists, and other providers treating beneficiaries with end-stage renal disease (ESRD).
- **Comprehensive Care for Joint Replacement Model.** Episode-based payment model for hip and knee replacements.
- **Bundled Payments for Care Improvement (BPCI) Advanced Model.** Episode-based payment model for a variety of inpatient and outpatient procedures and conditions.
- **Oncology Care Model—Two-sided risk track.** Hybrid payment model for chemotherapy involving elements of episode-based payment and primary care transformation models.
- **Comprehensive Primary Care Plus (CPC+)** Model. Primary care transformation model that pays primary care providers partial capitation plus small performance bonuses.
- **Primary Care First Model.** Successor to CPC+, involving larger performance bonuses.
- **Maryland's Primary Care Program & Care Redesign Program.** Maryland's Primary Care Program is modeled after CPC+. The state's Care Redesign Program includes an option modeled after BPCI Advanced, as well as an option allowing hospitals to pay their care partners incentive payments for engaging in care redesign interventions (e.g., care coordination, discharge planning, improving clinical quality and patient experience).
- **Vermont ACO Initiative.** Modeled after the Next Generation ACO Model, this multipayer shared savings model is intended to use the same payment structure for a majority of the state's providers. ■

already had several A-APMs to choose from at the time of MACRA's passage.) To help CMMI identify additional payment models to launch, MACRA created the Physician-Focused Payment Model Technical Advisory Committee (PTAC), to review prospective payment models submitted by the public and make recommendations to CMMI about whether to implement them (Assistant Secretary for Planning and Evaluation 2020). In the end, CMMI did not implement any models recommended by the PTAC, and the public stopped submitting models to the PTAC for review (Assistant Secretary for Planning and Evaluation 2021).

The impacts of alternative payment models

CMMI is required by statute to evaluate each model it operates to determine models' impacts on care quality and

on spending for Medicare, Medicaid, or CHIP. CMMI typically contracts with independent research firms to perform in-depth, multiyear, mixed-methods evaluations. Evaluators analyze claims data and commonly conduct interviews, surveys, and focus groups of participating providers and beneficiaries. Evaluators usually produce interim reports on an annual basis to give CMMI an early read on participants' experiences and models' effects, including any unintended consequences that may have developed. If a model generates favorable results before the planned implementation period has concluded, CMMI can end the model early and convert the model into a permanent, nationwide program—as it did with the Pioneer ACO Model (which became a track of the MSSP).

Table 2-1 (pp. 51–53) summarizes the impacts that CMMI's APMs have had on gross spending, net spending, and quality metrics according to model evaluation reports. These evaluations use difference-in-difference estimates to compare changes achieved by model participants relative

CMS's newest population-based models: Direct contracting

CMS's most recent population-based accountable care initiatives—the Global and Professional Direct Contracting Model and the Geographic Direct Contracting Model—aim to build on lessons of other advanced payment models (APMs) and include aspects of the Medicare Advantage (MA) program in a fee-for-service (FFS) Medicare APM. These direct contracting models allow a wider range of organizations to participate (including private-payer organizations, such as sponsors of MA plans and Medicaid managed care organizations). Under both direct contracting models, the Center for Medicare and Medicaid Innovation (CMMI) will pay partial or full capitation payments to participating organizations, which can in turn pay providers using their own payment arrangements or rates. Both models also give participating organizations enhanced operational flexibilities not typically available in FFS Medicare, such as the ability to subsidize beneficiaries' cost sharing and offer supplemental benefits such as meal programs or dental benefits. A criticism of the direct contracting models is that they may disrupt existing care relationships and put accountable care organizations (ACOs) participating in other models at a disadvantage (National Association of ACOs 2020).

Global and Professional Direct Contracting (GPDC) Model. Under the GPDC Model, participants are at risk for either 100 percent or 50 percent of the shared savings and losses they generate relative to their annual spending targets. In an effort to attract a variety of health care organizations to join the model, including

those that have never operated an ACO, the GPDC Model offers different features (e.g., different minimum numbers of attributed beneficiaries) to participating organizations, depending on their sophistication level and the complexity of their patients. GPDC's first performance year began in April 2021 and the model is scheduled to run through 2026, but CMS has announced that no new organizations will be able to join the model in 2022.

Geographic Direct Contracting (Geo) Model. Under the Geo Model, all FFS Medicare beneficiaries who live in a geographic region selected by CMS to take part in the model will be aligned to one of several participating organizations. These organizations' annual spending targets for their attributed beneficiaries will be set based on bids they submit to CMS, rather than spending targets determined by CMS (as is the case for other APMs). Participating organizations will be responsible for 100 percent of the shared savings or losses they generate, but will have more control over utilization and benefit design than is normally available in FFS Medicare APMs, such as the use of prior authorization and claim reviews. Because all FFS beneficiaries living in regions selected for the model will be aligned to an organization participating in the Geo Model (including those already attributed to an ACO or other APM), the potential for issues arising from model overlap will be especially high in those areas. The Geo Model was scheduled to begin in 2022 but is now under review by CMMI and may not be implemented as planned. ■

to changes observed for comparison group providers who generally do not participate in other comparable Medicare FFS APMs (but may be participating in comparable APMs offered by other payers, such as Medicare Advantage plans). This statistical approach allows evaluators to isolate the effects that are attributable to a model, as opposed to external trends reflecting broader changes in the delivery of health care. Federal evaluations usually analyze the full universe of participating providers and beneficiaries over models' full duration and assess models' impacts on

numerous cost, utilization, and quality measures. Although we report the overall findings for each model, there is often important heterogeneity in results for subsets of participating providers (e.g., variation in the results for hospital-led and physician-led ACOs, and variation in the results of episode-based payment models for different types of medical procedures and conditions).

Other researchers have also evaluated some of these models. Findings from their studies, which are sometimes

**TABLE
2-1**

Evaluation findings for CMS's key Medicare APMs *(continued next page)*

CMMI model	Years operated (and years evaluated, if different)	Beneficiaries or episodes in model	Model payments to providers	Savings or losses * = statistically significant		Main impacts on quality	Successor model
				Gross (excluding model payments)	Net (including model payments)		
Population-based models (ACOs)							
Physician Group Practice Demonstration	2005–2010	221,000 beneficiaries	\$102 PBPY	Savings* \$171 PBPY (2%)	Savings* \$69 PBPY (1%)	Reduced rates of hospital admissions and ED visits, and increased delivery of four diabetes tests and exams	MSSP
Independence at Home Demonstration	2012–2020 (first 5 years evaluated)	10,000 beneficiaries (per statutory cap)	\$1,091 PBPY	Savings \$2,400 PBPY (5%)	Savings \$1,309 PBPY (3%)	Quality generally did not change	
Pioneer ACO Model	2012–2016 (first 2 years evaluated)	608,000 beneficiaries	\$112 PBPY in 1st year; \$91 PBPY in 2nd year	Savings* \$427 PBPY in 1st year; \$134 PBPY in 2nd year	Savings* \$316 PBPY in 1st year; \$43 PBPY in 2nd year	Improvements in rates of hospital admissions for COPD, older-adult asthma, or heart failure in 2nd year; physician follow-up within a week of discharge in both years	MSSP's Track 3
Next Generation ACO Model	2016–2021 (first 3 years evaluated)	1,399,000 beneficiaries	\$150 PBPY	Savings* \$112 PBPY (1%)	Losses \$38 PBPY (0.3%)	Quality generally did not change	Global and Professional Direct Contracting Model
Models that facilitate participation in population-based models (ACOs)							
Advance Payment ACO Model	2012–2015 (first 2.5 years evaluated)	284,000 beneficiaries	\$30 million in unrecouped advance payments over 2.5 years	Savings \$14 million in first 1.5 years; Losses* \$71 million in 3rd year	Losses* \$87 million	Quality generally did not change	ACO Investment Model
ACO Investment Model	2015–2018	447,000 beneficiaries	\$58 PBPY in 1st year; \$81 PBPY in 2nd year; \$197 PBPY in 3rd year	Savings* \$339 PBPY (3%) in 1st year; \$443 PBPY (3.5%) in 2nd year; \$465 PBPY (4%) in 3rd year	Savings* \$280 PBPY (2%) in 1st year; \$362 PBPY (3%) in 2nd year; \$268 PBPY (2%) in 3rd year	Reduced hospitalizations, ED visits, post-acute skilled nursing facility care	Community Health Access and Rural Transformation Model

**TABLE
2-1**
Evaluation findings for CMS's key Medicare APMs (continued)

CMMI model	Years operated (and years evaluated, if different)	Beneficiaries or episodes in model	Model payments to providers	Savings or losses * = statistically significant		Main impacts on quality	Successor model
				Gross (excluding model payments)	Net (including model payments)		
Population-based models for kidney disease							
Comprehensive ESRD Care Model	2015–2021 (first 4 years evaluated)	142,000 beneficiaries over 4 years	\$1,284 PBPY	Savings* \$984 PBPY	Losses \$300 PBPY	Reduced hospital stays and readmissions; increased various recommended primary care services	Kidney Care Choices Model
Episode-based payment models							
Acute Care Episode Demonstration	2009–2013 (first 3 years evaluated)	12,500 episodes over 3 years	Not identified	Savings* \$319 per episode	Not determined	Quality generally did not change	
BPCI Model 2	2013–2018	1,260,000 episodes over 5 years	\$1,279 per episode	Savings* \$947 per episode (4%)	Losses* \$332 per episode (1%)	Quality generally did not change	BPCI Advanced Model
BPCI Model 3	2013–2018	154,000 episodes over 5 years	\$2,217 per episode	Savings* \$1,503 per episode (7%)	Losses* \$714 per episode (3%)	Quality generally did not change	
Comprehensive Care for Joint Replacement Model	2016–2024 (first 3 years evaluated for mandatory hospitals)	115,000 episodes over 3 years	\$787 per episode	Savings* \$1,323 per episode (5%)	Savings* \$536 per episode (2%)	Reduced rates of unplanned readmissions and certain complications	
BPCI Advanced Model	2018–2023 (first 10 months evaluated for 13 most common hospital-initiated episodes)	208,000 episodes over 10 months	\$1,407 per episode for the episodes studied	Savings* \$646 per episode (2%)	Losses* \$761 per episode (2%)	Mortality rates increased slightly for some types of episodes and decreased slightly for others; no changes in readmission rates or functional status	
Primary care transformation models							
Multipayer Advanced Primary Care Practice Demonstration	2011–2016 (2011–2014 evaluated)	725,000 beneficiaries	\$90 PBPY	Losses \$40 PBPY	Losses \$130 PBPY	No consistent impacts	Comprehensive Primary Care Initiative

TABLE
2-1

Evaluation findings for CMS's key Medicare APMs (continued)

CMMI model	Years operated (and years evaluated, if different)	Beneficiaries or episodes in model	Model payments to providers	Savings or losses * = statistically significant		Main impacts on quality	Successor model
				Gross (excluding model payments)	Net (including model payments)		
Comprehensive Primary Care Initiative	2012–2016	321,000 beneficiaries	\$180 PBPY	Savings \$108 PBPY (1%)	Losses \$72 PBPY (1%)	Reduced growth in rates of hospitalizations, ED visits, and ED revisits; increased follow-up after hospitalization	Comprehensive Primary Care Plus
Comprehensive Primary Care Plus Model	2017–2021 (first 3 years evaluated)	1,900,000 beneficiaries	\$162 PBPY (Track 1 practices); \$294 PBPY (Track 2 practices)	Losses \$36 PBPY (0.3%) (Track 1); \$19 PBPY (0.2%) (Track 2)	Losses* \$198 PBPY (2%) (Track 1); \$313 PBPY (3%) (Track 2)	Slight decreases in ED visits; slight increases in diabetes services, breast cancer screenings, and follow-up after hospitalization	Primary Care First
Hybrid models for cancer care (combines elements of episode-based payment + primary care transformation models)							
Oncology Care Model	2016–2022 (first 3 years evaluated)	133,000 beneficiaries per 6-month period	\$862 per 6-month episode	Savings* \$297 per episode (1%)	Losses* \$591 per episode	No changes on most quality measures, but slight decrease in end-of-life hospitalizations	

Note: APM (alternative payment model), CMMI (Center for Medicare and Medicaid Innovation), ACO (accountable care organization), PBPY (per beneficiary per year), ED (emergency department), MSSP (Medicare Shared Savings Program), COPD (chronic obstructive pulmonary disease), ESRD (end-stage renal disease), BPCI (Bundled Payments for Care Improvement). Models in gray are no longer active. "Beneficiaries or episodes in model" is the number of beneficiaries in a model in the most recent year evaluated, rounded to the nearest thousand, unless otherwise noted. "Model payments to providers" refers to supplemental payments available through an APM that are paid in addition to usual fee-for-service payments. Results reflect the average impact detected over the entire period evaluated, unless otherwise noted, and are estimated using a difference-in-difference regression model relative to a comparison group of providers. In most cases, providers in comparison groups are not known to be in another advanced APM. However, comparison group practices in the Comprehensive Primary Care Initiative (CPCI) evaluation included practices that had been recognized as patient-centered medical homes, and comparison group practices in the CPC+ (Comprehensive Primary Care Plus) Model evaluation also had prior experience with primary care practice transformation interventions. In the Independence at Home Demonstration, gross savings were driven by one large practice, which later stopped offering home-based primary care once under new ownership and exited the model. In the Pioneer ACO Model row, our estimates of model payments PBPY and net savings PBPY draw on data on model payments separately released by CMS (listed in the sources below). The ACO Investment Model row refers to the Test 1 cohort of ACOs in this model (i.e., those that were new MSSP ACOs formed in areas with few other ACOs, which were the majority of the ACOs in this model). For BPCI, only Model 2 and Model 3 are shown because 99 percent of BPCI episodes were one of these two model types. The Comprehensive Care for Joint Replacement Model row reflects results for hospitals for whom model participation is mandatory; results for voluntary participants have not been released. In the Multipayer Advanced Primary Care Practice Demonstration row, the model payment amount shown is an average of the eight participating states, each of which designed their own payment model. The CPC+ Model row shows results for the first of the two cohorts of practices in this model, which accounted for 95 percent of practices in this model. Model payments shown for CPC+ include the MSSP shared savings payments to practices that were participating in CPC+ and the MSSP concurrently, since such practices were eligible for performance bonuses only through the MSSP and not through CPC+. The Oncology Care Model row reflects our estimates of model payments paid to providers and net savings based on data in appendix section B.4 of that model's evaluation report (listed in the sources below). The MSSP is not shown in the table because it is a permanent nationwide program that has not had a federally funded evaluation of its impacts, although we describe results from other researchers' analyses of this program elsewhere in this chapter.

*Indicates savings or losses were statistically significantly different than \$0.

Source: MedPAC analysis of data in the most recent report by federally funded evaluators of each of the above models, and in some cases an accompanying peer-reviewed journal article or CMS data on model payments (Centers for Medicare & Medicaid Services 2021a, Centers for Medicare & Medicaid Services 2021b, Dummit et al. 2021, Fout et al. 2020, Hassol et al. 2021, Kautter et al. 2012, L & M Policy Research 2016a, L & M Policy Research 2016b, L & M Policy Research 2015, Lewin Group 2020, Li et al. 2020, Lowell 2020, Marrujo et al. 2021a, Marrujo et al. 2021b, Marrujo et al. 2021c, Nichols et al. 2017, Peikes et al. 2021, Peikes et al. 2018, Pope et al. 2014, Urdapilleta et al. 2013).

more limited in scope, are included in a later section that reviews the broader literature on APMs.

Impacts of CMS's Medicare Shared Savings Program

The MSSP is not included in Table 2-1 (pp. 51–53) because it is not a CMMI model, but rather a permanent, nationwide program serving 10.7 million beneficiaries. Unlike CMMI's models, the MSSP has not had a federally funded evaluation of its impacts. Academic researchers who have studied this program have found that, relative to comparison groups, the MSSP has generated some net savings for Medicare in at least some of the years that have been studied.

In the MSSP's first year (2013), the program generated gross savings, but ultimately net losses once shared savings payments by Medicare were factored in (McWilliams 2016a). In its second year (2014), the MSSP generated net savings of \$67 per beneficiary per year (0.7 percent savings) (McWilliams 2016a). In its third year (2015), the MSSP achieved gross savings, but generated net savings only from physician-group ACOs (\$256 million) and not from hospital-integrated ACOs, leading to total net savings across all participants of \$145 million that year (McWilliams et al. 2018). The Commission's analysis of the MSSP's first four years found that Medicare spending growth slowed by 1 percentage point to 2 percentage points for participants over those four years (equivalent to 0.25 percentage point to 0.5 percentage point of gross savings per year); net savings were not calculated (Medicare Payment Advisory Commission 2019). McWilliams has argued that the MSSP's impacts in later years "cannot be estimated" due to providers selectively entering and exiting the MSSP, comparison group contamination by other payment models, and increases in coding intensity that have complicated risk adjusting a comparison group of beneficiaries, among other issues (McWilliams and Chen 2020a, McWilliams and Chen 2020b). Nevertheless, an industry-funded study that looked at the MSSP's first five years found the program generated gross savings of 1 percent to 2 percent over this period (over \$100 per beneficiary per year, or \$3.5 billion over five years); net savings over this five-year period were equivalent to about a fifth of this amount (\$755 million) (Dobson et al. 2019).

Studies of the impact of the MSSP on quality have produced mixed findings. Some have found small improvements on a few quality measures—such as rates of readmissions (Borza et al. 2019, Kim et al. 2020) and colonoscopies (Cole et al. 2019). Other studies have found

no impacts on other quality metrics studied (Borza et al. 2018, Cole et al. 2019, Kim et al. 2020, Markovitz et al. 2019, McWilliams et al. 2017, Modi et al. 2019) or slight worsening of quality (McWilliams et al. 2017).

Summarizing the impact of Medicare's APMs

Some notable trends emerge from Table 2-1 (pp. 51–53) and studies of the MSSP. First, almost all of CMS's accountable care and episode-based payment models have generated relatively small gross savings for the Medicare program, before model payments (e.g., performance bonuses) are taken into account. This trend suggests that these models' incentives may have led provider organizations to induce changes in their clinicians' behavior, perhaps through investment in new care management infrastructure, provider education initiatives, or other strategies that may affect the quantity or the mix of health care services delivered. Many APMs tested so far have yielded sufficiently promising results or sufficiently actionable lessons learned that they have been refined and relaunched as successor models under new names.

After bonuses are paid to model participants, gross savings are reduced and in some cases Medicare expenditures in APMs have exceeded what they would have been otherwise. However, some of the models that have generated gross savings have also generated net savings for Medicare even after model payments are taken into account. The models that have yielded net savings include two early ACO models, some years of the MSSP, and a track of the ACO Investment Model (AIM) that helped new MSSP ACOs form in areas with few other ACOs. The Comprehensive Care for Joint Replacement (CJR) Model for hip and knee replacements also yielded net savings. While the newer Bundled Payments for Care Improvement (BPCI) Advanced Model has not yet generated net savings in aggregate across its various types of clinical episodes, certain episodes (i.e., for hip and knee replacements, other hip and femur procedures, and urinary tract infections) have generated net savings (Dummit et al. 2021).

CMMI's two most successful APMs both targeted providers who might not otherwise have been interested in participating in an APM: CJR initially mandated participation among hospitals in certain geographic areas (rather than allow hospitals who expected to financially benefit from the APM to self-select into the model); AIM financially incentivized the formation of ACOs in geographic areas with low ACO penetration through up-front and monthly payments (which were expected to be

paid back once the ACOs earned shared-savings payments through the MSSP).

In contrast to CMS's accountable care and episode-based payment models, its primary care transformation models have generated small gross losses for Medicare. Yet primary care models have also generated some small improvements in care quality: The two most recent models reduced emergency department (ED) visits, and beneficiaries in these models were more likely to report timely follow-up after a hospitalization than comparison beneficiaries (Peikes et al. 2021, Peikes et al. 2018).

Summarizing the broader APM literature

Population-based models (ACOs)

Federally funded evaluations summarized in Table 2-1 (pp. 51–53) and the broader literature reviewed below suggest that population-based payment models (e.g., ACOs) have generated the most consistently favorable financial results among APMs. However, one summary of the literature characterized the savings generated by Medicare, Medicaid, and private payers' ACOs as only “nominal” and cautioned that ACOs could increase costs once bonuses and the costs of new technology and infrastructure are factored in (Kaufman et al. 2019). Most Medicare ACO models have generated gross savings of up to a few percentage points, and some models also generate net savings once model payments are factored in. CMS's most successful ACO model is the ACO Investment Model, which generated net savings of 2 percent to 3 percent once model payments were included (Fout et al. 2020). (This model gave ACOs pre-paid shared savings to encourage the formation of new ACOs in rural and underserved areas.)

Outside of Medicare, there is limited evidence of the impact of ACOs implemented by other payers (McClellan et al. 2017). A notable exception is Blue Cross Blue Shield of Massachusetts' ACO-style Alternative Quality Contract. Researchers have found that providers who entered into this HMO commercial payer model in 2009 and 2010 generated gross savings of 9 percent through the end of 2012 and received new model payments worth 16 percent to 17 percent of their total spending, leading to net losses for the payer. Subsequently, from 2013 to 2016, these providers produced gross savings of 14.2 percent and received model payments worth 13 percent to 14 percent, yielding small net savings. Later cohorts of providers that joined the model in 2011 and 2012 generated gross savings of 4.7 percent through 2013 and earned new model payments worth 2 percent to 3 percent

of their total spending, leading to small net savings for the payer. Subsequently, these later cohorts generated gross savings of 2.0 percent from 2014 to 2016 and received model payments worth 1 percent to 2 percent of their total spending, yielding potential net savings for the payer (Song et al. 2019).³

Another study of a commercial HMO ACO (this one covering public employees in California) found that this model generated gross losses in its first two years and then no changes in spending in the subsequent three years. It did, however, increase delivery of various screenings and immunizations (Zhang et al. 2019).

Pulling back to the broader literature, one review of Medicare, Medicaid, and private payers' ACOs found that the results most consistently produced by ACOs were reduced inpatient and ED use and increased delivery of preventive services and chronic disease management (Kaufman et al. 2019). A second review summarized the literature as suggesting that ACOs reduce gross spending without reducing quality (Wilson et al. 2020).

Episode-based models

Episode-based payment models also tend to generate gross savings, but have had less success generating net savings. An exception to this rule, however, is episode-based payment models for hip and knee replacements, which have generated net savings for Medicare under multiple APMs. When this type of clinical episode was tested in the CJR Model, it yielded net savings of 2 percent among those hospitals that were mandated to participate in this model (evaluators have not yet released results for voluntary participants) (Lewin Group 2020). Episodes for hip and knee replacements also generated net savings in the subsequent BPCI Advanced Model (along with episodes for other hip and femur procedures, and for urinary tract infections) (Dummit et al. 2021). Both of these models reduced rates of readmissions following a hip or knee replacement, and the CJR Model also reduced rates of certain complications (Dummit et al. 2021, Lewin Group 2020). An earlier model, the BPCI Model, also would have generated net savings from hip and knee replacement episodes (as well as gastrointestinal hemorrhage episodes and medical noninfectious orthopedic episodes) if that model had been implemented as intended and downside risk had not been eliminated (which was done by CMS due to implementation errors that affected target prices and episode attribution) (Marrufo et al. 2021a, Marrufo et al. 2021b).

Private payers have also had success with joint replacement episodes. A recent analysis of an episode-based payment model offered by self-insured employers for working-age adults found that it reduced episode spending for major joint replacement, spinal fusion, and bariatric surgery by 10.7 percent in its first two years. The model was offered only to clinicians who met quality standards and who agreed to accept lower episode prices (in some cases, as much as \$29,000 lower) than they would have garnered through an FFS payment system. Patients were incentivized to use participating clinicians through waived cost sharing. Participating clinicians, in turn, could require patients to lose weight or get their diabetes under control before operating on them, and could decline to perform surgeries on patients (which they did for about 30 percent of patients); a separate nonsurgical bundle applied to such patients (Whaley et al. 2021).

As for the broader literature, a 2020 review of the literature on episode-based payment models implemented by payers in the U.S. and other high-income countries found that such models produced modest savings in about two-thirds of the studies it identified; a little more than half of the studies found small quality improvements on most evaluated measures (Struijs et al. 2020).

Primary care transformation models

Primary care transformation models have been tested and evaluated extensively but have produced very inconsistent findings across studies, which may in part be due to heterogeneity in the models tested (Sinaiko et al. 2017). No clear trend emerges from the literature as to primary care transformation models' ability to generate savings. Evaluations find that these models sometimes generate gross losses and sometimes generate gross savings; outside of federal evaluations, they often do not assess whether models generate net savings (Cuellar et al. 2016, Hebert et al. 2014, Kahn et al. 2016, Maeng et al. 2016, Maeng et al. 2015, Peikes et al. 2021, Peikes et al. 2018, Sinaiko et al. 2017, Werner et al. 2013). Savings are often more likely for high-risk subsets of patients with chronic conditions such as diabetes or cancer (Christensen et al. 2013, Cole et al. 2015, David et al. 2015, Fillmore et al. 2014, Wang et al. 2014, Waters et al. 2019).

The latest results from Medicare's large-scale primary care transformation model, Comprehensive Primary Care Plus (CPC+), finds this model generated small net losses, but slight improvements in the mix of services delivered—with more preventive services and fewer ED visits occurring (Peikes et al. 2021). The 2 percent to 3 percent

net losses generated by CPC+ have translated into a net financial loss for Medicare of \$4.5 billion so far, since CMMI tested this model with an unusually large number of participating providers—over 3,000 practices serving nearly 2 million FFS Medicare beneficiaries (Peikes et al. 2021, Smith 2021).

Primary care transformation models commonly have little to no effect on quality (Kahn et al. 2016, Peikes et al. 2021, Peikes et al. 2018, Rosenthal et al. 2013, Sinaiko et al. 2017, Werner et al. 2013). When a model does improve quality, it tends to consist of increased delivery of some preventive services (e.g., cancer screenings) and decreases in rates of ED visits (David et al. 2015, Kicing et al. 2019, Peikes et al. 2021, Peikes et al. 2018, Pines et al. 2015, Rosenthal et al. 2016a, Rosenthal et al. 2016b, Rosenthal et al. 2013, Sinaiko et al. 2017, Swietek et al. 2020, Werner et al. 2013). The evaluators of CPC+ and its predecessor, the Comprehensive Primary Care Initiative, have also found that practices that participated in these back-to-back initiatives reduced hospitalizations in their fifth and sixth years of participation (Peikes et al. 2021).

Notably, a few private insurers have found success with primary care transformation models. For example, a model offered by Geisinger Health Plan generated gross savings of 8 percent within eight years and reduced rates of inpatient admissions and readmissions within four years (Gilfillan et al. 2010, Maeng et al. 2015). The plan embedded nurse case managers into primary care practices to identify and manage medically complex patients and offered practices shared savings payments tied to quality and spending performance for their elderly Medicare Advantage enrollees.

Why pursue APMs?

Beyond the modest gross spending and quality improvements mentioned above, there are other reasons to pursue APMs. First and foremost, APMs allow CMS to experiment with changing how Medicare pays providers—to create stronger incentives to control overall costs than exist in traditional FFS payment systems, while maintaining or improving quality. At their core, well-designed APMs can give providers who are interested and able to provide care more efficiently the opportunity to do so with some financial reward. By holding providers accountable for total cost of care (for a population of beneficiaries or a set of clinical episodes), Medicare rules

intended to limit overutilization can be relaxed—allowing more flexibility for providers and, perhaps, savings on administrative costs. For example, APMs can allow Medicare to experiment with waiving certain Medicare requirements—such as the requirement that a beneficiary have a three-day hospital stay before they receive skilled nursing facility care or the requirement that beneficiaries reside in certain geographic areas to access telehealth—to see whether dropping these requirements allows providers to develop more cost-effective care patterns.

There are other reasons to pursue APMs. Reductions in net spending produced by Medicare’s ACOs and other APMs could lead to lower spending in Medicare Advantage (MA) since FFS spending levels are used to set CMS’s prospective payments to MA plans (McWilliams 2016b, Mechanic and Gaus 2018). Positive changes to how a provider delivers care that are prompted by one payer’s APM could spill over and lead to changes in the way that same provider treats patients who are not part of that APM (Einav et al. 2020, McWilliams 2016b, Mechanic and Gaus 2018, Sahni et al. 2020, Wilcock et al. 2019). Some have even posited that widespread pursuit of APMs might slow the growth in national health care spending (Navathe et al. 2020a). And some have pointed out that ACOs generate larger savings the longer they operate, so the small savings generated so far might grow to become larger savings in the future (Chernew et al. 2017, Mechanic and Gaus 2018).

In particular, the fact that so many of Medicare’s accountable care models and episode-based payment models have generated gross savings is a promising indicator—suggesting that Medicare’s APMs are succeeding in incentivizing providers to make new investments in their care management infrastructure, and may be incentivizing clinicians to change their care patterns—prescribing a more efficient mix of services, putting more emphasis on prevention, and referring to lower cost providers.

The challenge going forward is to design models that can build on the modest success of APMs and more meaningfully influence expenditures and quality. In the absence of APMs, FFS payment approaches would likely have fewer incentives to promote efficiency. That said, APMs introduce their own challenges and associated operational costs, such as how to optimize risk adjustment and beneficiary attribution. Other potential issues with APMs include the risk of unwarranted shared savings

being paid to providers, which can happen when providers shift from treating sicker patients to healthier patients, change their billing structure, or more thoroughly code patients’ diagnoses over time.

Factors that may be limiting the success of APMs

As the Commission explores ways to help CMMI’s models achieve greater success, certain barriers that can prevent models from generating larger savings or quality improvements for Medicare may need to be considered:

- ***Providers in APMs can continue to have incentives to maximize utilization.*** Most APMs layer bonuses and other payments on top of traditional FFS payment systems, many of which have financial incentives to increase the volume of services delivered. Many APMs attempt to counter these FFS incentives by rewarding providers who reduce total spending per beneficiary while maintaining quality. But because FFS systems are used to pay for services in many of these APMs, and any performance payments earned are usually paid several years after any savings are generated, those models can send mixed signals to APM participants. APM clinicians can also face mixed incentives when they furnish care to a combination of beneficiaries attributed to an APM and some who are fully under FFS. The features of an APM itself can also create mixed incentives: When an APM’s spending targets are based on prior-year spending levels, providers have a disincentive to deeply reduce spending since doing so would make future spending targets lower and harder to beat.
- ***Payment models’ incentives can be hard to understand.*** FFS incentives are relatively easy for providers to understand, and their entire care delivery approach is built around responding to these incentives. Meanwhile, many APMs’ specifications can run more than 100 pages and require substantial changes in provider workflow, infrastructure, and behavior to be successful. It is perhaps not surprising, then, that clinicians in APMs have described these models as having “incomprehensible” incentives that often require significant investments of time or consultants to understand (Friedberg et al. 2018).

In particular, APMs' complex parameters can make it difficult for providers to forecast whether they will earn a bonus or owe a financial penalty if they participate in a model. This challenge is compounded by the fact that CMMI can make unexpected changes to models that alter participants' model payments. In addition, it is possible that any individual clinician participating in an APM may not fully understand how their actions contribute to the APM's success. Consequently, there is a risk that the complexity of models may be suppressing provider participation and limiting the effectiveness of incentives for providers to change their behavior.

- ***Clinicians' employers may shield them from models' incentives.*** Some providers participating in new payment models work for health care organizations that pay them primarily based on the volume of services they provide, to shield them from the complexity and constant changes in APMs (Friedberg et al. 2018). Depending on how that organization chooses to respond to a model's incentives, providers could have no direct incentive to change their behavior and could even be unaware that they are participating in a new payment model. Incentives to improve performance on the specific spending, utilization, or quality measures in any one APM are also likely to be weak if only a small portion of a provider's patients are in that particular model.
- ***It may take more time for APMs' impact to materialize than CMMI currently allows.*** Some studies have found that APMs' impact grows over time and sometimes takes more than five years to materialize. It can take providers several years to change their practice culture and develop new care approaches, and it can take time for improved management of patients' conditions to result in savings for the Medicare program or improvements in quality and health outcomes. If CMMI were to test models for longer periods of time—say, 8 or 10 years—more models could ultimately prove to be successful.
- ***Voluntary payment models allow selection bias among participants.*** In voluntary models, providers who are likely to owe Medicare financial penalties (e.g., shared losses) may be less likely to participate, while those who are likely to receive bonuses (e.g., shared savings) may be more likely to participate. This lopsided participation can lead to models

paying more in performance bonuses and generating more net losses for Medicare than might occur if the models were mandatory and implemented in a more representative sample of providers. Similar problems related to selection bias can arise when APM participants that are not successful in generating savings are permitted to exit a model part-way through its implementation period.

- ***Some clinicians may be unable to make the infrastructure investments needed to succeed in new payment models.*** Some observers posit that certain providers, especially small or under-resourced providers, may not participate in new models because of a perception that they do not have the resources to be successful (e.g., data infrastructure, training and compliance staff, care management tools) (American Medical Association 2017, Friedberg et al. 2018). Some providers may also be reluctant to make infrastructure investments if they believe the amount of time needed to realize improvements in performance will take longer than the payment model's implementation period, thus limiting the return on their investments.
- ***Beneficiaries' financial incentives are not aligned with those of providers.*** Beneficiaries attributed to providers in a new payment model are typically not aware that they are participating in a new model (Catterson et al. 2020). This lack of awareness combined with the absence of incentives to change their own behavior put the onus for change entirely on the provider.

To promote the long-term success of APMs, CMS needs to consider how it can address some of these issues, which can affect providers' responses to incentives in APMs and contribute to underperformance of models.

Unintended consequences of implementing multiple concurrent APMs

CMS's model-testing approach usually treats each model as independent of other models being implemented at the same time, yet CMS also allows providers and beneficiaries to be in multiple Medicare APMs at once. Although allowing overlapping participation maximizes participation in APMs, it can lead to some problematic interactive effects.

Allowing providers to participate in multiple APMs can dilute each model's incentives

In 2019, of the 580,000 clinicians who participated in at least one Medicare APM, 20 percent participated in multiple Medicare APMs simultaneously or multiple tracks of the same Medicare APM at once. For example, providers in at least some tracks of the MSSP are allowed to participate in most other non-ACO APMs (e.g., CPC+, Primary Care First, CJR, BPCI Advanced, Oncology Care Model). When a provider participates in multiple APMs, each covering a different subset of a provider's patient panel, it can dilute each individual APM's incentives. Participating in multiple models at once can increase the chances that a provider will be faced with different payment methods, different care processes they are encouraged to implement, and different reporting requirements. For example, one model may tie bonuses to reducing total spending, whereas another may tie bonuses to increasing delivery of primary and preventive services. Since only a subset of a provider's patients may be in any one of these models, the financial rewards attached to each of these models' performance measures may be small.

When clinicians are in multiple models at once, the question for the person who determines their compensation arrangement becomes how to reconcile these different payment approaches (and resulting incentives) when structuring clinician compensation schemes. For a majority of clinicians, their incomes are still based, at least in part, on the quantity of services they deliver per year, so they may have relatively weak incentives to reduce the volume of services they furnish (Rama 2020, Sullivan Cotter 2020).

Attributing beneficiaries to multiple APMs can also weaken incentives

Beneficiaries can also be attributed to multiple APMs at once. One study found that one-quarter of beneficiaries attributed to the BPCI Model were also attributed to the MSSP, and that 1 out of every 10 beneficiaries attributed to the MSSP had at least 1 episode under BPCI (Navathe et al. 2020b).

To avoid paying duplicative bonuses, CMS has model overlap policies that specify how costs and savings are allocated between different models when a beneficiary receives care from two sets of providers participating in two different APMs. These rules have been developed for each combination of APMs and effectively specify which model gets priority when CMS is awarding performance-based payments. These overlap policies can result in

shared savings payments being paid to participants in one APM, even if providers in another APM helped reduce costs for that beneficiary. Model overlap policies can also result in model payments made to providers in one APM being counted as spending for which providers in another APM are held accountable. By preventing providers from getting credit for all of the beneficiaries they treat, and making it harder to stay within spending targets, these model overlap policies reduce the amount of model payments providers might otherwise expect to receive from APMs—thus reducing the strength of financial incentives in these models. The number of APMs operating right now is an issue because it may increase how often these model overlap policies are triggered.

Contaminated comparison groups may reduce the likelihood of finding impacts

Allowing providers and beneficiaries to participate in multiple APMs at once complicates evaluators' efforts to accurately assess the effect of a given APM. One important goal of fielding models is to empirically measure whether a given approach results in significant reductions in Medicare spending or improvements in quality compared with a group of nonparticipating providers. However, the presence of so many models in the environment—offered not only by traditional FFS Medicare but also by MA plans, Medicaid, and private insurers—reduces the likelihood that evaluators will be able to construct a comparison group of providers that are not participating in any other APM. This abundance of models can then lead to a situation where evaluators find favorable results among both the APM's providers and the comparison group's providers (which could be participating in an unknown mix of other APMs)—prompting the evaluators to erroneously conclude that the APM being studied had little or no effect on spending or quality (Navathe et al. 2020a). Comparison groups can also become contaminated when some comparison group beneficiaries receive care from treatment group providers—for example, when a comparison group beneficiary who is not attributed to an ACO receives care from a specialist participating in that ACO.

Recommendation

CMS is to be commended for the vigor with which it has approached its task of developing and testing new payment models. It has implemented a wide variety of models over

the last decade—many of which have generated gross reductions in Medicare expenditures. These spending reductions are an indication that APMs can successfully motivate providers to deliver care more efficiently. Furthermore, some models have been shown to modestly improve the quality of care.

CMMI's first 10 years were marked by an approach that tested many types of models so that lessons could be learned about what worked and what did not. Many of those lessons have been incorporated into second-generation and third-generation models now being implemented or planned. While this progress is encouraging, continuing to test a large number of independent APMs may inhibit the ability of these models to reach their full potential. The Commission contends the time has come for CMS to adjust its approach to designing and implementing APMs. APMs may have a better chance of succeeding if the number of such models is reduced and the remaining models are more deliberately designed to work together to improve care quality and reduce spending, such as through more consistent model features.

RECOMMENDATION 2

The Secretary should implement a more harmonized portfolio of fewer alternative payment models that are designed to work together to support the strategic objectives of reducing spending and improving quality.

RATIONALE 2

Much has been learned from the APMs implemented over the last 10 years, which should be applied to the next generation of APMs. An important lesson of the last decade is that implementing a large group of models that operate more or less independently of one another can have unintended consequences that dampen incentives for providers to furnish care more efficiently.

Addressing this situation will require a change in the way Medicare approaches APM design and implementation. Instead of operating a series of APMs that are effectively developed independent of one another, the agency should seek to deploy a more parsimonious portfolio of models that are designed to work together. It is especially important to ensure that financial incentives presented by different models are complementary and do not weaken one another when combined.

The Commission's recommendation could be carried out in any number of ways. One way could be to focus on a single population-based model with different tracks by

provider type or beneficiary population. For instance, there could be separate, but aligned, tracks for integrated health systems, multispecialty physician practices, ESRD facilities, and so on. Other types of models, such as those that focus on episodes of care or primary care transformation, could be added to the portfolio to act as an extension of the main population-based model, although model overlap rules would need to carefully consider how best to incentivize optimal management of beneficiaries treated by two sets of providers in two different models. Accounting for interaction between an ACO and an episode-based payment model is especially important, since both models can hold participants accountable for the cost of care of a common set of beneficiaries during the same period of time.

A second approach that could be considered would be to take a geographic approach to testing models, which CMMI has done for some models (e.g., CPC+) but not others (e.g., BPCI Advanced). CMMI could limit all of its models to particular geographic areas of the country, to more actively control how many models are operating in any given region at once. For instance, certain geographic regions could have access to the MSSP only, with no other Medicare APMs operating in those areas. Other regions could have access to other combinations of APMs: For example, certain areas could have access to the MSSP plus some other competing accountable care model, while other areas could have access to the MSSP plus an episode-based model; other areas could have access to the MSSP and a primary care transformation model, while others could have access to the MSSP plus an episode-based payment model and a primary care transformation model. This approach could reduce the potential for patients to be attributed to multiple models (although it would not eliminate this problem) and could allow researchers to identify the additive impact of coupling certain models compared with implementing some models by themselves.

In either of the approaches just mentioned, the agency could foster greater harmonization among models by using more consistent model parameters (e.g., for calculating spending targets and measuring quality performance). Reducing the number of APMs would make the task of standardizing model parameters a more manageable undertaking for CMS. If models were less complex, they could also attract more independent providers, since such providers might no longer need to hire consultants to help them understand different models, enroll in a model, and excel in that model. It would also be important to account

for the MSSP, which is the largest alternative payment model in Medicare and not implemented by CMMI. The Secretary has wide discretion in setting and changing the features of this program, so changes could be made administratively to improve alignment between the MSSP and other APMs.

A third approach that could be contemplated would be to encourage more states to follow Maryland and Vermont's lead by pursuing waivers that allow them to operate a smaller set of state-specific versions of CMMI's APMs within their borders. Maryland couples its unique global payment model for hospitals with state-specific versions of BPCI Advanced and CPC+ and an additional state-specific model that lets hospitals design their own payment incentives for providers in their communities (e.g., to encourage care coordination, discharge planning, and improving clinical quality and patient experience). Meanwhile, Vermont has adopted a tighter focus, operating only a state-specific version of the Next Generation ACO Model. CMS could work with other states to implement different combinations of customized versions of its payment models in an effort to identify the combination of models that will best engage the widest range of providers to produce the largest impacts on spending and quality.

Spending

- The Congressional Budget Office estimates this recommendation would have no effect on net Medicare spending over the next five years. However, since APMs have shown promise in reducing gross Medicare expenditures, the Commission believes that a smaller set of APMs—with better aligned incentives to reduce volume and costs—could increase the degree to which providers change their behavior in response to the models and could lead to reductions in spending over a time frame of longer than five years.

Beneficiaries and providers

- The recommendation could have a positive impact on beneficiaries and providers. An improved suite of APMs could be more likely to improve care coordination, quality of care, health outcomes, and other factors important to beneficiaries. A smaller, more harmonized portfolio of models could also have benefits for providers, including more predictable financial incentives. Fewer, more harmonized models could also reduce providers' administrative burden if the models had more consistent features, and could lead to other payers adopting models with these common features. ■

Endnotes

- 1 The new Community Health Access and Rural Transformation (CHART) model is a successor to the ACO Investment Model.
- 2 The one APM that is not considered an A-APM is the Value in Opioid Use Disorder Treatment Demonstration Program, which does not involve significant financial risk and does not require the use of a certified EHR.
- 3 Ranges are reported for model payments to protect the confidentiality of contracts between the payer and provider organizations.

References

- American Medical Association. 2017. Reducing barriers to physician-focused payment models. <https://www.ama-assn.org/sites/ama-assn.org/files/corp/media-browser/public/about-ama/councils/Council%20Reports/council-on-medical-service/issue-brief-reducing-barriers-physician-focused-payment-models.pdf>.
- Assistant Secretary for Planning and Evaluation, Department of Health and Human Services. 2021. *The Physician-Focused Payment Model Technical Advisory Committee: Charting future directions*. Washington, DC: ASPE. <https://aspe.hhs.gov/system/files/aspe-files/207901/aspe-charting-future-directions-ptac.pdf>.
- Assistant Secretary for Planning and Evaluation, Department of Health and Human Services. 2020. Proposals & materials: Physician-Focused Payment Model Technical Advisory Committee. <https://aspe.hhs.gov/proposal-submissions-physician-focused-payment-model-technical-advisory-committee>.
- Borza, T., S. R. Kaufman, P. Yan, et al. 2018. Early effect of Medicare Shared Savings Program accountable care organization participation on prostate cancer care. *Cancer* 124, no. 3 (February 1): 563–570.
- Borza, T., M. K. Oerline, T. A. Skolarus, et al. 2019. Association between hospital participation in Medicare Shared Savings Program accountable care organizations and readmission following major surgery. *Annals of Surgery* 269, no. 5 (May): 873–878.
- Cassidy, A. 2008. *The fundamentals of Medicare demonstrations*. Background paper no. 63. Washington, DC: The George Washington University National Health Policy Forum. https://www.nhpf.org/library/background-papers/BP63_MedicareDemos_07-22-08.pdf.
- Catterson, R., A. Figueroa, M. Hertel, et al. 2020. *Beneficiary, provider, and health system perspectives on Medicare and other issues*. Report prepared by staff from NORC at the University of Chicago for the Medicare Payment Advisory Commission. Bethesda, MD: NORC.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021a. Pioneer Accountable Care Organization Model performance year 1 (2012) results. <https://innovation.cms.gov/files/x/pioneeraco-fncl-py1.pdf>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021b. Pioneer Accountable Care Organization Model performance year 2 (2013) results. <https://innovation.cms.gov/files/x/pioneeraco-fncl-py2.pdf>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020. Alternative payment models in the Quality Payment Program as of November 2020. <https://qpp-cm-prod-content.s3.amazonaws.com/uploads/1213/2020%20and%202021%20Comprehensive%20List%20of%20APMs.pdf>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2018. Medicare program; revisions to payment policies under the physician fee schedule and other revisions to Part B for CY 2019; Medicare Shared Savings Program requirements; Quality Payment Program; Medicaid Promoting Interoperability Program; Quality Payment Program—extreme and uncontrollable circumstance policy for the 2019 MIPS payment year; provisions from the Medicare Shared Savings Program—accountable care organizations—Pathways to Success; and expanding the use of telehealth services for the treatment of opioid use disorder under the Substance Use-Disorder Prevention That Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act. *Federal Register* 83, no. 226 (November 23): 60047.
- Chernew, M. E., C. Barbey, and M. J. McWilliams. 2017. Savings reported by CMS do not measure true ACO savings. *Health Affairs* blog. June 19. <https://www.healthaffairs.org/do/10.1377/hblog20170619.060649/full/>.
- Christensen, E. W., K. A. Dorrance, S. Ramchandani, et al. 2013. Impact of a patient-centered medical home on access, quality, and cost. *Military Medicine* 178, no. 2 (February): 135–141.
- Cole, A. P., A. Krasnova, A. Ramaswamy, et al. 2019. Recommended cancer screening in accountable care organizations: Trends in colonoscopy and mammography in the Medicare Shared Savings Program. *Journal of Oncology Practice* 15, no. 6 (June): e547–e559.
- Cole, E. S., C. Campbell, M. L. Diana, et al. 2015. Patient-centered medical homes in Louisiana had minimal impact on Medicaid population's use of acute care and costs. *Health Affairs* 34, no. 1 (January): 87–94.
- Cuellar, A., L. A. Helmchen, G. Gimm, et al. 2016. The CareFirst Patient-Centered Medical Home Program: Cost and utilization effects in its first three years. *Journal of General Internal Medicine* 31, no. 11 (November): 1382–1388.
- David, G., C. Gunnarsson, P. A. Saynisch, et al. 2015. Do patient-centered medical homes reduce emergency department visits? *Health Services Research* 50, no. 2 (April): 418–439.

Dobson, A., S. Pal, A. Hartzman, et al. 2019. *2017 update: MSSP savings estimates. Report for National Association of ACOs*. Vienna, VA: Dobson DaVanzo and Associates.

Dummit, L., A. Tripp, S. Bergman, et al. 2021. *CMS Bundled Payments for Care Improvement Advanced Model: Year 2 evaluation annual report*. Falls Church, VA: Lewin Group. <https://innovation.cms.gov/data-and-reports/2021/bpci-yr2-annual-report>.

Einav, L., A. Finkelstein, Y. Ji, et al. 2020. Randomized trial shows healthcare payment reform has equal-sized spillover effects on patients not targeted by reform. *Proceedings of the National Academy of Sciences of the United States of America* 117, no. 32 (Aug 11): 18939–18947.

Fillmore, H., C. A. DuBard, G. A. Ritter, et al. 2014. Health care savings with the patient-centered medical home: Community Care of North Carolina's experience. *Population Health Management* 17, no. 3 (June): 141–148.

Fout, B., M. Trombley, A. Bengtsson, et al. 2020. *Evaluation of the Accountable Care Organization Investment Model*. Rockville, MD: Abt Associates. <https://innovation.cms.gov/data-and-reports/2020/aim-final-anrpt>.

Friedberg, M. W., P. G. Chen, M. Simmons, et al. 2018. *Effects of health care payment models on physician practice in the United States: Follow-up study*. Santa Monica, CA: RAND. https://www.rand.org/pubs/research_reports/RR2667.html.

Gilfillan, R. J., J. Tomcavage, M. B. Rosenthal, et al. 2010. Value and the medical home: Effects of transformed primary care. *American Journal of Managed Care* 16, no. 8 (August): 607–614.

Government Accountability Office. 2018. *CMS Innovation Center: Model implementation and center performance*. GAO-18-302. Washington, DC: GAO. <https://www.gao.gov/assets/700/690875.pdf>.

Hassol, A., N. West, G. Newes-Adeyi, et al. 2021. *Evaluation of the Oncology Care Model: Performance period 1-5—Appendices*. Rockville, MD: Abt Associates. <https://innovation.cms.gov/data-and-reports/2021/ocm-evaluation-pp1-5-app>.

Hebert, P. L., C. F. Liu, E. S. Wong, et al. 2014. Patient-centered medical home initiative produced modest economic results for Veterans Health Administration, 2010-12. *Health Affairs* 33, no. 6 (June): 980–987.

Kahn, K. L., J. W. Timbie, and M. W. Friedberg. 2016. *Evaluation of CMS's Federally Qualified Health Center (FQHC) Advanced Primary Care Practice (APCP) Demonstration*. Report prepared for the Centers for Medicare & Medicaid Services. Santa Monica, CA: RAND Corporation. <https://downloads.cms.gov/files/cmml/fqhc-finalevalrpt.pdf>.

Kaufman, B. G., B. S. Spivack, S. C. Stearns, et al. 2019. Impact of accountable care organizations on utilization, care, and outcomes: A systematic review. *Medical Care Research and Review* 76, no. 3 (June): 255–290.

Kautter, J., G. C. Pope, M. Leung, et al. 2012. *Evaluation of the Medicare Physician Group Practice Demonstration: Final report*. Research Triangle Park, NC: RTI International. <https://downloads.cms.gov/files/cmml/medicare-demonstration/PhysicianGroupPracticeFinalReport.pdf>.

Kicinger, I. M., A. Cuellar, L. A. Helmchen, et al. 2019. Quality of care and preventive screening use in the CareFirst Patient-Centered Medical Home Program. *Journal for Healthcare Quality* 41, no. 6 (November/December): 339–349.

Kim, Y., L. G. Glance, R. G. Holloway, et al. 2020. Medicare Shared Savings Program and readmission rate among patients with ischemic stroke. *Neurology* 95, no. 8 (August 25): e1071–e1079.

L & M Policy Research. 2016a. *Evaluation of CMMI accountable care organization initiatives: Advance Payment ACO final report*. Report prepared by L & M Policy Research LLC, Abt Associates, Avalere Health, Social & Scientific Systems, and Truven Health Analytics for the Center for Medicare & Medicaid Innovation. Washington, DC: L & M Policy Research LLC, Abt Associates, Avalere Health, Social & Scientific Systems, and Truven Health Analytics. <https://innovation.cms.gov/files/reports/advpayacofinalevalrpt.pdf>.

L & M Policy Research. 2016b. *Evaluation of CMMI accountable care organization initiatives. Pioneer ACO final report*. Report prepared for the Centers for Medicare & Medicaid Services. Washington, DC: L & M Policy Research. <https://innovation.cms.gov/files/reports/pioneeraco-finalevalrpt.pdf>.

L & M Policy Research. 2015. *Evaluation of CMMI accountable care organization initiatives: Pioneer ACO evaluation findings from performance years one and two*. Report prepared by L & M Policy Research LLC, Abt Associates, Avalere Health, Social & Scientific Systems, and Truven Health Analytics for the Center for Medicare & Medicaid Innovation. Washington, DC: L & M Policy Research LLC, Abt Associates, Avalere Health, Social & Scientific Systems, and Truven Health Analytics. <https://innovation.cms.gov/files/reports/pioneeracoevalrpt2.pdf>.

Lewin Group. 2020. *CMS Comprehensive Care for Joint Replacement Model: Performance year 3 evaluation report*. Falls Church, VA: Lewin Group, Abt Associates, GDIT, and Telligen. <https://innovation.cms.gov/data-and-reports/2020/cjrthirdannrpt>.

- Li, E., L. Kimmey, and V. Cheh. 2020. *Evaluation of the Independence at Home Demonstration: An examination of the first five years*. Princeton, NJ: Mathematica. <https://innovation.cms.gov/files/reports/iah-yr5evalrpt.pdf>.
- Lowell, K. H. 2020. *Third evaluation report: Next Generation Accountable Care Organization Model evaluation*. Bethesda, MD: NORC at the University of Chicago. <https://innovation.cms.gov/data-and-reports/2020/nextgenaco-thirdevalrpt-fullreport>.
- Maeng, D. D., N. Khan, J. Tomcavage, et al. 2015. Reduced acute inpatient care was largest savings component of Geisinger Health System's patient-centered medical home. *Health Affairs* 34, no. 4 (April): 636–644.
- Maeng, D. D., J. P. Sciandra, and J. F. Tomcavage. 2016. The impact of a regional patient-centered medical home initiative on cost of care among commercially insured population in the U.S. *Risk Management and Healthcare Policy* 9: 67–74.
- Markovitz, A. A., J. M. Hollingsworth, J. Z. Ayanian, et al. 2019. Performance in the Medicare Shared Savings Program after accounting for nonrandom exit: An instrumental variable analysis. *Annals of Internal Medicine* 171, no. 1 (July 2): 27–36.
- Marrufo, G., A. Bradley, J. Somers, et al. 2021a. *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 7 evaluation & monitoring annual report*. Falls Church, VA: Lewin Group. <https://innovation.cms.gov/data-and-reports/2021/bpci-models2-4-yr7evalrpt>.
- Marrufo, G., A. Bradley, J. Somers, et al. 2021b. *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 7 evaluation & monitoring annual report—Appendices*. Falls Church, VA: Lewin Group. <https://innovation.cms.gov/data-and-reports/2021/bpci-models2-4-yr7evalrpt-app>.
- Marrufo, G., B. Negrusa, D. Ullman, et al. 2021c. *Comprehensive End-Stage Renal Disease Care (CEC) Model: Performance year 4 annual evaluation report*. Report prepared by Lewin Group for the Centers for Medicare & Medicaid Services. Falls Church, VA: Lewin Group. <https://innovation.cms.gov/data-and-reports/2021/cec-annrpt-py4>.
- McClellan, M., K. Udayakumar, A. Thoumi, et al. 2017. Improving care and lowering costs: Evidence and lessons from a global analysis of accountable care reforms. *Health Affairs* 36, no. 11 (November): 1920–1927.
- McWilliams, J. M. 2016a. Changes in Medicare Shared Savings Program Savings from 2013 to 2014. *JAMA* 316, no. 16 (October 25): 1711–1713.
- McWilliams, J. M. 2016b. Savings from ACOs—Building on early success. *Annals of Internal Medicine* 165, no. 12 (December 20): 873–875.
- McWilliams, J. M., and A. Chen. 2020a. Understanding the latest ACO “savings”: Curb your enthusiasm and sharpen your pencils—Part 1. *Health Affairs* blog. November 12. <https://www.healthaffairs.org/doi/10.1377/hblog20201106.719550/full/>.
- McWilliams, J. M., and A. Chen. 2020b. Understanding the latest ACO “savings”: Curb your enthusiasm and sharpen your pencils—Part 2. *Health Affairs* blog. November 13. <https://www.healthaffairs.org/doi/10.1377/hblog20201106.1578/full/>.
- McWilliams, J. M., M. E. Chernew, and B. E. Landon. 2017. Medicare ACO program savings not tied to preventable hospitalizations or concentrated among high-risk patients. *Health Affairs* 36, no. 12 (December): 2085–2093.
- McWilliams, J. M., L. A. Hatfield, B. E. Landon, et al. 2018. Medicare spending after 3 years of the Medicare Shared Savings Program. *New England Journal of Medicine* 379, no. 12 (September 20): 1139–1149.
- Mechanic, R., and C. Gaus. 2018. Medicare Shared Savings Program produces substantial savings: New policies should promote ACO growth. *Health Affairs* blog. September 11. <https://www.healthaffairs.org/doi/10.1377/hblog20180906.711463/full/>.
- Medicare Payment Advisory Commission. 2020. *A data book: Health care spending and the Medicare program*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2019. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Modi, P. K., S. R. Kaufman, T. Borza, et al. 2019. Medicare accountable care organizations and use of potentially low-value procedures. *Surgical Innovation* 26, no. 2 (April): 227–233.
- National Association of ACOs. 2020. Letter to Brad Smith, Director of the Center for Medicare & Medicaid Innovation, regarding direct contracting: professional and global options performance year 2021 financial methodology; Geographic option. December 16. December 16. <https://www.naacos.com/direct-contracting-professional-and-global-options-letter>.
- Navathe, A. S., C. W. Boyle, and E. J. Emanuel. 2020a. Alternative payment models—Victims of their own success? *JAMA* 324, no. 3 (July 21): 237–238.

Navathe, A. S., C. Dinh, S. E. Dykstra, et al. 2020b. Overlap between Medicare's voluntary bundled payment and accountable care organization programs. *Journal of Hospital Medicine* 15, no. 6 (June): 356–359.

Nichols, D., S. Haber, M. Romaire, et al. 2017. *Evaluation of the Multi-Payer Advanced Primary Care Practice (MAPCP) Demonstration*. Waltham, MA: RTI International. <https://downloads.cms.gov/files/cmmti/mapcp-finalevalrpt.pdf>.

Peikes, D., G. Anglin, S. Dale, et al. 2018. *Evaluation of the Comprehensive Primary Care Initiative: Fourth annual report*. Report prepared for the Centers for Medicare & Medicaid Services. Princeton, NJ: Mathematica Policy Research. <https://downloads.cms.gov/files/cmmti/CPC-initiative-fourth-annual-report.pdf>.

Peikes, D., A. Swankoski, A. O'Malley, et al. 2021. *Independent evaluation of Comprehensive Primary Care Plus (CPC+): Third annual report*. Report prepared for the Centers for Medicare & Medicaid Services. Princeton, NJ: Mathematica Policy Research. <https://innovation.cms.gov/data-and-reports/2021/cpc-plus-third-annual-eval-report>.

Pines, J. M., V. Keyes, M. van Hasselt, et al. 2015. Emergency department and inpatient hospital use by Medicare beneficiaries in patient-centered medical homes. *Annals of Emergency Medicine* 65, no. 6 (June): 652–660.

Pope, G., J. Kautter, M. Leung, et al. 2014. Financial and quality impacts of the Medicare Physician Group Practice Demonstration. *Medicare & Medicaid Research Review* 4, no. 3.

Rama, A. 2020. *Policy research perspectives: 2012–2018 data on physician compensation methods: Upswing in compensation through the combination of salary and bonus*. Chicago, IL: American Medical Association. <https://www.ama-assn.org/system/files/2020-12/data-physician-compensation-methods.pdf>.

Rosenthal, M. B., S. Alidina, M. W. Friedberg, et al. 2016a. A difference-in-difference analysis of changes in quality, utilization and cost following the Colorado Multi-Payer Patient-Centered Medical Home Pilot. *Journal of General Internal Medicine* 31, no. 3 (March): 289–296.

Rosenthal, M. B., S. Alidina, M. W. Friedberg, et al. 2016b. Impact of the Cincinnati Aligning Forces for Quality Multi-Payer Patient Centered Medical Home Pilot on health care quality, utilization, and costs. *Medical Care Research and Review* 73, no. 5 (October): 532–545.

Rosenthal, M. B., M. W. Friedberg, S. J. Singer, et al. 2013. Effect of a multipayer patient-centered medical home on health care utilization and quality: The Rhode Island Chronic Care Sustainability Initiative pilot program. *JAMA Internal Medicine* 173, no. 20 (November 11): 1907–1913.

Sahni, N. R., D. Groh, D. Nuzum, et al. 2020. The math of ACOs. McKinsey & Company, Healthcare Systems and Services Practice, August 19. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/the-math-of-acos#>.

Sinaiko, A. D., M. B. Landrum, D. J. Meyers, et al. 2017. Synthesis of research on patient-centered medical homes brings systematic differences into relief. *Health Affairs* 36, no. 3 (March 1): 500–508.

Smith, B. 2021. CMS Innovation Center at 10 years—Progress and lessons learned. *New England Journal of Medicine* 384, no. 8 (February 25): 759–764.

Song, Z., Y. Ji, D. G. Safran, et al. 2019. Health care spending, utilization, and quality 8 years into global payment. *New England Journal of Medicine* 381, no. 3 (July 18): 252–263.

Struijs, J. N., E. F. de Vries, C. A. Baan, et al. 2020. *Bundled-payment models around the world: How they work and what their impact has been*. Issue brief. New York: The Commonwealth Fund. <https://www.commonwealthfund.org/publications/2020/apr/bundled-payment-models-around-world-how-they-work-their-impact>.

Sullivan Cotter. 2020. Physician compensation programs shifting to address changing market dynamics and mitigate COVID-19 financial implications. *Yahoo! Finance*, November 11.

Swietek, K. E., B. N. Gaynes, G. L. Jackson, et al. 2020. Effect of the patient-centered medical home on racial disparities in quality of care. *Journal of General Internal Medicine* 35, no. 8 (August): 2304–2313.

Urdapilleta, O., D. Weinberg, S. Pedersen, et al. 2013. *Evaluation of the Medicare Acute Care Episode (ACE) Demonstration: Final evaluation report*. Columbia, MD: IMPAQ International. <https://downloads.cms.gov/files/cmmti/ACE-EvaluationReport-Final-5-2-14.pdf>.

Wang, Q. C., R. Chawla, C. M. Colombo, et al. 2014. Patient-centered medical home impact on health plan members with diabetes. *Journal of Public Health Management and Practice* 20, no. 5 (September–October): E12–20.

Waters, T. M., C. M. Kaplan, I. Graetz, et al. 2019. Patient-centered medical homes in community oncology practices: Changes in spending and care quality associated with the COME HOME experience. *Journal of Oncology Practice* 15, no. 1 (January): e56–e64.

Werner, R. M., M. Duggan, K. Duey, et al. 2013. The patient-centered medical home: An evaluation of a single private payer demonstration in New Jersey. *Medical Care* 51, no. 6 (June): 487–493.

Whaley, C. M., C. Dankert, M. Richards, et al. 2021. An employer-provider direct payment program is associated with lower episode costs. *Health Affairs* 40, no. 3 (March): 445–452.

Wilcock, A. D., M. L. Barnett, J. M. McWilliams, et al. 2019. Association between Medicare’s mandatory joint replacement bundled payment program and post-acute care use in Medicare Advantage. *JAMA Surgery* 155, no. 1 (October 2): 82–84.

Wilson, M., A. Guta, K. Waddell, et al. 2020. The impacts of accountable care organizations on patient experience, health outcomes and costs: A rapid review. *Journal of Health Services Research & Policy* 25, no. 2 (April): 130–138.

Zhang, H., D. W. Cowling, J. M. Graham, et al. 2019. Five-year impact of a commercial accountable care organization on health care spending, utilization, and quality of care. *Medical Care* 57, no. 11 (November): 845–854.

C H A P T E R

3

**Congressional request:
Private equity and Medicare**

Congressional request: Private equity and Medicare

Chapter summary

In March 2020, the chairman of the Committee on Ways and Means asked the Commission to examine the role that private equity (PE) plays in the Medicare program. *Private equity* refers broadly to any activity where investors buy an ownership, or equity, stake in companies or other financial assets that are not traded on public stock or bond exchanges. One type of PE activity that has drawn growing attention in recent years involves investment firms that purchase companies and then try to improve their operational and financial performance so they can later be sold for a substantial profit. These types of acquisitions have become increasingly common in many parts of the economy, including the health care sector.

The advantages and disadvantages of PE investment in health care have long been a topic of debate. Supporters argue that PE firms improve the performance of the companies they acquire, generate better returns than other types of investments, and provide a way for health care companies to obtain capital. Opponents argue that PE firms can weaken the long-term health of the companies they acquire by weighing them down with debt, increase health care costs by using market power to obtain higher payment rates, and do little to improve quality.

In this chapter

- Background
- Many Medicare providers have complex business structures that make it difficult to identify ownership and control
- Business models for PE investments in health care
- Effects of PE investment on Medicare costs, beneficiary experience, and provider experience
- PE involvement with the Medicare Advantage program
- Conclusion

Committee questions and our responses

What are current gaps in Medicare data that create issues in tracking private equity investments in Medicare? Are there levers that facilitate or allow for the collection of PE-related information in the current Change of Ownership (CHOW) process administered by the Centers for Medicare & Medicaid Services?

Understanding which individuals or entities own a Medicare provider and their track record of operations could help to improve oversight and safeguard patient care. Transparency of ownership information may help not only beneficiaries and their families as they select health care providers but also researchers as they analyze the effects of PE backing. CMS primarily collects data on provider ownership to support the enrollment process, payment, and fraud prevention, rather than research on the prevalence of different types of ownership. Observers have noted for many years that the ownership data submitted to CMS are incomplete and sometimes inaccurate. One particular obstacle is capturing accurate ownership data for providers (such as nursing homes and some hospitals) that are part of complex corporate structures with multiple levels and subsidiaries. As a result, CMS's ownership data typically do not indicate a parent organization atop a hierarchy of legal entities. More complete ownership data and greater transparency of ownership are highly important. However, under constrained resources, the feasibility of CMS identifying parent organizations for large numbers of Medicare providers and suppliers is a difficult challenge.

What are private equity funds' business models when investing in health care? How do these strategies vary by health care setting?

We examined PE business models in three key sectors: hospitals, nursing homes, and physician practices. PE firms have made investments in each sector but have a limited presence: We found that PE firms own about 4 percent of hospitals and 11 percent of nursing homes. We do not have a comparable figure for physician practices. At least 2 percent of practices were acquired by PE firms from 2013 to 2016, but that figure does not account for previous PE acquisitions and appears to have grown since then.

Because there is no single comprehensive source of ownership information, researchers compile data about PE ownership from proprietary datasets and public announcements. As a result, the estimated numbers of health care providers with PE backing are likely too low.

PE firms use several common strategies to make the providers they own in these sectors more profitable. Many of these strategies are also used by for-profit

providers that are not PE owned. Some of those strategies focus on increasing revenues (such as providing more services, shifting toward a more highly compensated mix of services and procedures, or raising prices where possible), while others focus on reducing costs (such as taking advantage of economies of scale and lowering labor costs). Other strategies are more relevant to individual sectors, such as selling off a nursing home's real estate or creating larger physician practices by acquiring a large "platform" practice and then buying smaller practices in the same market.

How has private equity investment in health care affected Medicare costs and the beneficiary and provider experience?

For hospitals, where it was easier to identify the relatively small number of PE-owned facilities from public sources compared with other sectors, we found that PE-owned facilities tended to have lower costs and lower patient satisfaction than other for-profit and nonprofit hospitals. However, the differences among the three groups were relatively small and may not be caused by PE ownership.

For nursing homes, the research literature is somewhat dated and the findings on the effects of PE ownership on financial and quality of care indicators are mixed.

For physician practices, there is minimal peer-reviewed, empirical evidence of the impact of PE ownership on Medicare spending, quality of care, and patients' experience.

To what extent are private equity firms investing in companies that participate in Medicare Advantage, and is it possible to evaluate the effects of such investments on Medicare costs?

We found that PE funds own about 2 percent of the companies (6 out of 309) offering Medicare Advantage (MA) plans in January 2021. The plans offered by those PE-owned companies account for a little less than 2 percent of overall MA enrollment. We also identified another 25 companies that have received other types of PE investment, largely venture capital. These companies are often startup firms that focus exclusively on the MA program, and many target specific niche markets, such as beneficiaries living in nursing homes. This group of companies accounted for about 1 percent of overall MA enrollment.

In addition, PE firms (again, largely venture capital firms) have invested in a range of companies that work for MA plan sponsors. Many of these companies provide

services or care management to enrollees, and several are paid using value-based contracts where they bear some financial risk for enrollees' overall health costs.

We did not find any research that examines the effects of PE investments in MA companies on Medicare costs, and we believe that such an analysis would be very difficult to conduct due to various data limitations. ■

Background

The term *private equity* (PE) refers broadly to any activity where investors buy an ownership, or equity, stake in companies or other financial assets that are not traded on public stock or bond exchanges. One type of PE activity that has drawn growing attention in recent years involves investment firms that purchase companies and then try to improve their operational and financial performance so they can later be sold for a profit. These types of acquisitions have become increasingly common in many parts of the economy, including the health care sector.

In March 2020, the chairman of the Committee on Ways and Means asked the Commission to examine the effects of private equity on the Medicare program. The request asked the Commission to answer four questions, to the extent feasible:

1. What are current gaps in Medicare data that create issues in tracking private equity investments in Medicare? Are there levers that facilitate or allow for the collection of PE-related information in the current Change of Ownership (CHOW) process administered by the Centers for Medicare & Medicaid Services?
2. What are private equity funds' business models when investing in health care? How do these strategies vary by health care setting?
3. How has private equity investment in health care affected Medicare costs and the beneficiary and provider experience?
4. To what extent are private equity firms investing in companies that participate in Medicare Advantage, and is it possible to evaluate the effects of such investments on Medicare costs?

This chapter provides our responses to the questions specified in the request. The request expressed interest in a quantitative analysis of the effect of PE ownership, if feasible, but this kind of analysis is often quite difficult to carry out due to the lack of good data about which providers are owned by PE firms, which we discuss in more detail in this chapter. As a result, the work in this chapter is based primarily on a combination of literature review and interviews with outside experts such as representatives of PE firms, researchers, and consultants.

What do we mean when we use the term *private equity*?

The term *private equity* refers broadly to any activity where investors buy an ownership stake, or equity, in companies or other financial assets that are not traded on public exchanges like the stock and bond markets.¹ The term sometimes generates confusion because it encompasses a wide range of investment activities that can differ in important respects. For example, the financial sector considers all of the following types of investment to be private equity:

- **Venture capital (VC)** involves investments in startup companies that are developing new technologies or business models. These companies often need capital for activities such as research and development, but they have not yet demonstrated that they can be profitable and thus cannot obtain capital by borrowing from a bank or issuing bonds. VC investors provide capital for startup companies in exchange for a partial ownership stake. These investments carry a high degree of risk since the companies involved are new and unproven, but VC investors can earn significant profits from companies that later become successful.
- **Growth capital** involves investments in companies that have moved beyond the startup phase—they have demonstrated that they can be profitable—but need capital to expand their operations. As with VC, growth capital investors typically receive a partial ownership stake when they invest in a company (although some may purchase a majority stake), and the company's existing management usually remains in place. However, these investments are considered less risky than venture capital because they involve companies that have shown their viability.
- **Buyouts** involve investments in established companies, which can be either privately owned or publicly traded. Unlike the two categories above, buyout funds purchase at least a majority ownership stake when they invest in a company. When a buyout fund takes full ownership of a company that had been publicly traded, the company is “taken private,” meaning that it becomes a privately owned entity and its shares are no longer bought and sold on the stock market. The buyout fund takes full control of the company and can either retain or replace the company's management. In many instances, the

company's management team will also take a partial ownership stake. Buyout funds will spend some of their own money to buy a company, but they usually finance more than half of the cost of the acquisition by borrowing money. The use of borrowed money, or debt, to help finance an investment is often referred to as leverage because it allows the borrower to use less of its money to make a given investment, which potentially enables the borrower to earn much greater returns (while also potentially exposing the borrower to much greater losses). Since buyout funds rely heavily on borrowed money to purchase a company, their acquisitions are sometimes referred to as leveraged buyouts.

Within the health care sector, the growing prominence of PE firms in recent years largely reflects the actions of companies that have been acquired through buyouts. For example, some of the physician staffing companies that have engaged in the controversial practice of “surprise billing,” where providers such as emergency department (ED) physicians and anesthesiologists bill for services using out-of-network rates, have been owned by PE funds that pursue buyouts. As a result, we focused primarily on buyouts in responding to the congressional request and will use the term *private equity* to refer to them specifically unless noted otherwise.

Private equity investments have been growing

The amount of public equity in the U.S. dwarfs the amount of private equity. In 2019, public market capitalization totaled over \$37 trillion, compared with aggregate North American PE assets under management—including buyouts, venture capital, growth capital, private debt, real estate, and other types of investments—of about \$3 trillion (McKinsey & Company 2020, Sibilis Research 2020). (Those figures pertain to the overall economy, not just the health care sector.) Stock exchanges remain the key source of investment funds among very large corporations and growth companies with large capital requirements because public exchanges have been perceived as the lowest cost way to access sizable amounts of financing (Moon 2006, Rosov 2018).

Nevertheless, over the past several decades, the importance of private equity in the U.S. economy has grown dramatically. Between 1996 and 2012, the number of companies listed on U.S. public stock exchanges fell from more than 8,000 to about 4,100 (Doidge et al. 2017).²

Meanwhile, between 2006 and 2017, the number of PE-backed U.S. firms grew from around 4,000 to about 8,000 (McKinsey & Company 2019). One reason for the decline in public listings is that the average size of listed firms increased. However, the trend also reflects the fact that listing one's company on a public exchange may no longer be as important for obtaining access to capital as in prior years.

Buyouts are the leading category of PE investment. As of 2019, total North American PE buyout assets under management totaled \$1.24 trillion—nearly three times the size of venture capital, the next-largest category (McKinsey & Company 2020). PE firms have been around since at least the 1970s, but the use of leveraged buyouts as a method of acquiring companies first became more noticeable in the 1980s (Kaplan and Stromberg 2009). The crash of junk bonds in the late 1980s and early 1990s led to the default of a few high-profile firms acquired using leveraged buyouts, and there were few PE acquisitions of publicly traded companies in the 1990s. Nevertheless, PE firms continued to purchase divisions of public firms and private companies. After declining in the early 2000s with the collapse of the “dot-com bubble,” PE buyouts of public firms reemerged in the mid-2000s.

Several reasons account for the rise of PE leveraged buyouts. First, the use of debt (borrowed money) has had a lower cost of capital than investor equity because of lower risk and because interest payments on loans can be deducted from corporate income taxes.³ Interest rates have also remained low since the 2008 financial crisis. Relative to publicly traded markets, private investments (including PE buyouts) are subject to fewer disclosure and regulatory requirements of securities law. Further, under accounting rule changes, public and private pension funds have been required to recognize their unfunded liabilities, many of which are substantial. To help make up those shortfalls, some pension funds have sought investments with higher returns, and PE firms have been perceived as offering such returns. PE investments have also been seen as a way to diversify the portfolio of institutional investors such as pension funds.

Key elements of the private equity model

The PE firms that specialize in buyouts vary greatly in size and in the types of companies that they purchase, but they nonetheless have a number of common features, and their investment activities follow a distinctive life cycle. In this section, we briefly outline the basic elements of the PE model.

Raising money from investors

The life cycle of private equity investment begins with a PE firm raising money from outside investors and pooling it into an investment fund. Each investment fund operates for a specific period of time, usually around 10 years (Mercer 2015). Most PE firms raise money for new investment funds every few years and thus oversee multiple funds. According to one report, PE firms managed an average of 4.5 funds in 2019 (Bain & Company 2020b).

The Securities and Exchange Commission (SEC) limits participation in PE funds to “accredited” and “qualified” investors—including institutional groups such as pension funds, university endowments, foundations, banks, and insurance companies, as well as individuals who meet asset, income, or other criteria that deem them sophisticated enough to not need the protections provided by the registration and disclosure requirements of publicly traded companies (Securities and Exchange Commission 2020a). Institutional investors account for more than 90 percent of the money invested in PE funds (Securities and Exchange Commission 2021). PE funds are subject to fewer regulatory requirements than other parts of the financial sector—for example, under an exception to a 1982 rule, funds that are limited to accredited investors received safe harbor from registration requirements for securities offerings (De Fontenay 2017). The SEC’s limits on participation in PE funds are based on the rationale that the ability to invest in PE funds should be restricted to relatively sophisticated groups that can better assess the potential risks and rewards of these types of assets. In addition, PE funds often require investors to contribute a substantial minimum amount, which can range anywhere from \$100,000 to \$10 million or more depending on the size of the fund (Jones 2018). The median amount of time that PE firms needed to raise money for the investment funds that were launched in 2019 was 10.5 months (Bain & Company 2020b).

When investors participate in a PE fund, they agree to provide a specified amount of money to support the fund’s investment activities and operating costs. The investors do not provide this money upfront. Instead, the PE firm periodically makes “capital calls” that require investors to provide funding when the firm is ready to make a specific investment. Investors usually have 10 days to provide the money (Altegris Advisors 2019). As a result, a significant portion of the money that has been pledged to a PE fund

may not be in use at a given point in time, especially in the early years of a fund’s life span. Investors cannot withdraw their money from a PE fund before the end of the fund’s life span, which makes PE funds a much more long-term and illiquid (i.e., difficult to convert to cash) form of investing compared with traditional stocks or bonds.⁴

In 2019, PE firms operating in the U.S. raised a total of \$301 billion across 202 investment funds, for an average size of \$1.5 billion. However, that average is inflated because it includes six “mega funds” that each raised more than \$10 billion. The average size of the funds that were launched between 2016 and 2018 was smaller, around \$900 million (Lykken 2020).

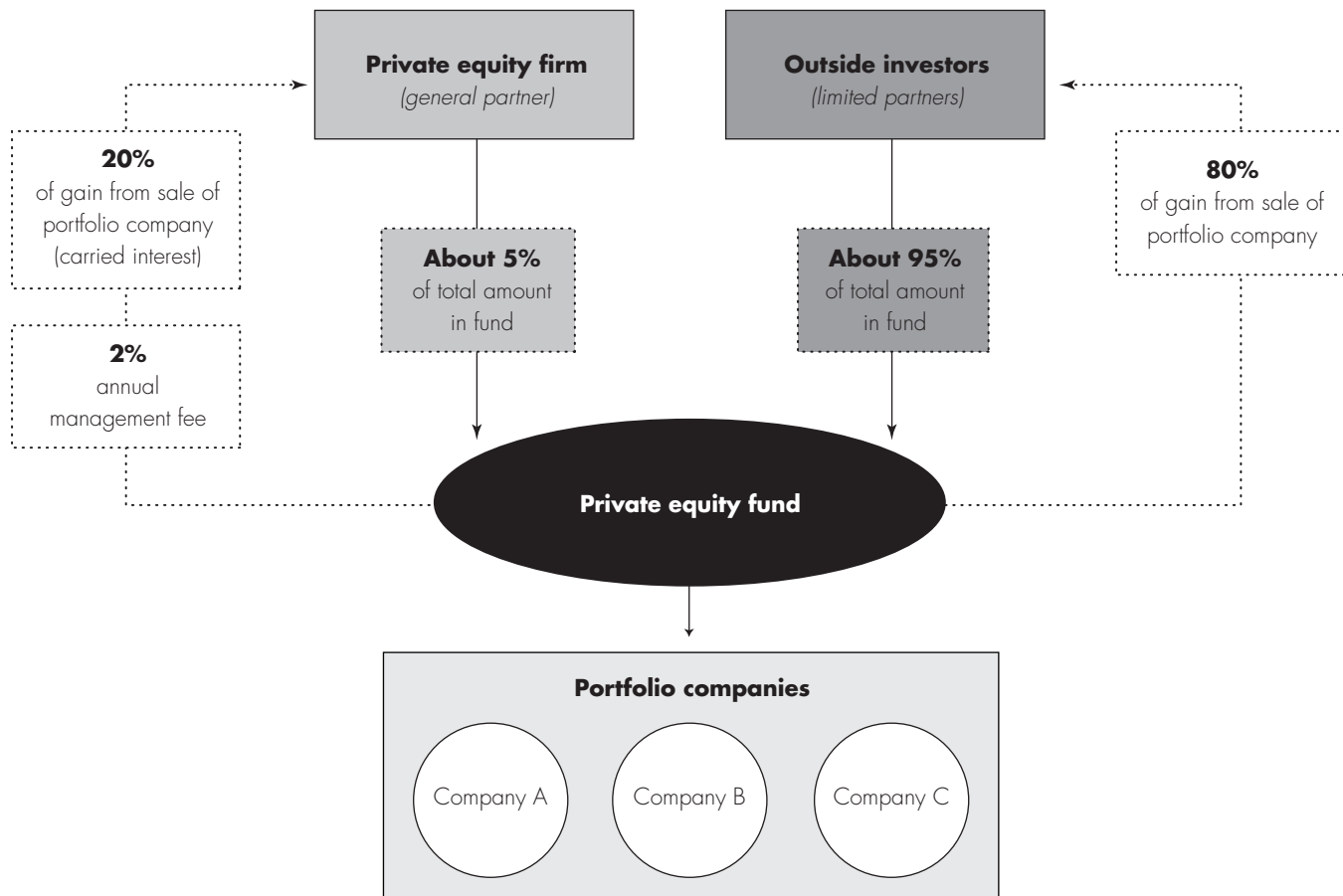
PE funds are structured as limited partnerships, with the PE firm typically serving as the fund’s general partner (GP) (Figure 3-1, p. 78). The legal agreement that governs the partnership may set broad guidelines about the fund’s investment activity (for example, requiring it to invest in a mix of economic sectors and geographic regions), but within that framework the GP has broad control over the fund’s activity (Altegris Advisors 2019). The GP also invests some of its own money in the fund, usually between 1 percent and 5 percent of the overall total (Jacobius 2017). The fund’s outside investors serve as limited partners; although they account for the vast majority of the money committed to the fund, they are passive investors and play no role in the fund’s activities.

Buying and selling portfolio companies

Once a new investment fund has been set up, the PE firm that manages the fund buys and sells companies with the goal of improving their operational and financial performance, increasing their value, and later selling them for a profit (Figure 3-2, p. 79). Once these companies have been acquired, they are referred to as portfolio companies. These acquisitions usually occur during the first three to five years of a fund’s life span, which is often called the investment period.⁵ PE firms will often make between 10 and 20 acquisitions during a fund’s life span, with the fund’s rules typically barring the firm from using more than 15 percent to 20 percent of the overall capital for any one investment (Witkowski 2020). The amount spent on a single acquisition can vary anywhere from less than \$25 million to billions of dollars (Mercer 2015). Many acquisitions in health care are relatively small and fall below the threshold where parties to a merger or acquisition must report their plans to federal antitrust authorities before completing the transaction.⁶

**FIGURE
3-1**

Typical structure of a private equity fund



Source: MedPAC analysis.

PE firms rely heavily on borrowed money to finance their acquisitions. Depending on the permissiveness of the lending environment, borrowed money can account for as much as 70 percent of the cost of an acquisition (Mercer 2015). The PE fund provides the remaining amount. In a typical leveraged buyout, the assets of the company that is being acquired are used as collateral for the loan, and the company that is being acquired, rather than the PE firm or the PE fund, becomes responsible for making payments on the loan once the buyout is completed.

PE firms prefer using borrowed money instead of the investment fund's capital for two reasons. First, borrowing

money magnifies the potential return on an investment because the PE fund can use less of its money to acquire a company while still generating a comparable profit from its eventual sale. (Borrowing money also magnifies the potential losses from an investment, but one controversial feature of PE funds is that they are not usually responsible for the debts of their portfolio companies in a bankruptcy. This arrangement lets PE funds reap the benefits of using borrowed money while limiting their exposure to the capital they have invested in the portfolio company.) Second, the corporate income tax provides an incentive to borrow money because the costs of servicing debt reduce a company's tax liability.

**FIGURE
3-2**

Typical life cycle of private equity investments



Note: PE (private equity).

Source: MedPAC analysis of Government Accountability Office. 2010. *Nursing homes: Complexity of private investment purchases demonstrates need for CMS to improve the usability and completeness of ownership data*. GAO-10-710. Washington, DC: GAO.

Since PE firms acquire companies during the first 3 to 5 years of an investment fund and must sell the companies before the fund reaches the end of its life span (usually 10 years), a PE firm will usually control a portfolio company for somewhere between 3 and 7 years. During this time, the PE firm will try to improve the portfolio company's operational and financial performance—for example, by increasing its revenues or lowering its costs. Since the PE firm owns the portfolio company (or at least a majority stake), the PE firm has a much greater degree of control than it would with a partial ownership stake in a publicly traded company and can make significant changes to the portfolio company's management team and/or business strategy (Mercer 2015).

Once an investment fund enters the second half of its life span, the PE firm's attention begins to shift from buying portfolio companies to selling them. This phase is sometimes known as a fund's liquidation period. There may not be a clear boundary between the end of the investment period and the start of the liquidation period; a fund might acquire one company while selling another company. The sale of a portfolio company usually happens in one of four ways:

- the PE fund sells the company to a strategic acquirer (such as a competing company in the same industry);
- the PE fund sells the company to another PE investment fund;

- the PE fund converts the company into a publicly traded entity through an initial public offering of stock (which then allows the PE fund to sell its shares in the company); or
- the portfolio company repays the PE fund for its investment (effectively buying itself back from the PE firm, often by borrowing money) (Altegris Advisors 2019).

Once a portfolio company has been sold, the PE fund typically distributes the proceeds to the fund's investors instead of reinvesting them, even if the fund has not yet reached the end of its life span. Although PE firms aim to achieve substantial returns for their investors, the profits (or losses) from the sale of an individual portfolio company will depend on the extent to which the PE firm was able to improve the company's performance and find an attractive exit.

PE firms may also employ strategies that generate profits from portfolio companies before selling them. For example, the PE firm might require a portfolio company to complete a dividend recapitalization—where the company borrows money and uses the proceeds to make a special dividend payment to its owners (i.e., the investors in the PE fund). Another strategy is to direct the portfolio company to sell some of its real estate holdings and distribute some of the proceeds from the sale to the PE fund's investors. This strategy has been used in several

PE investments in the hospital and nursing home sectors. A third strategy is to require the portfolio company to pay substantial management or consulting fees to the PE firm or a related subsidiary. Although these strategies can enable a PE fund to generate some profits well before a portfolio company is sold, they have also been criticized for weakening the underlying financial health of portfolio companies (Appelbaum and Batt 2020, Coleman-Lochner and Ronalds-Hannon 2019, Whoriskey and Keating 2018).

Critics have argued that PE ownership can be harmful to companies because PE firms typically own the companies for a relatively short period of time and require them to take on more debt. These features, they suggest, give PE firms an incentive to focus on strategies that generate short-term profits but may weaken a company's long-term health. In contrast, the PE firm representatives that we interviewed argued that, relative to publicly traded companies and their focus on quarterly earnings, PE firms can be more flexible and nimble, and are often "patient capital" that make it easier for companies to pursue strategies that may take time to fully pay off. These representatives also said PE firms do not want to undermine their companies' long-term health because that would make it harder to sell them for a profit.

PE firms are typically paid based on the "2 and 20" model

The limited partners in a PE investment fund (the outside investors) have traditionally paid the general partner (the PE firm) for managing their investments using an approach known as the "2 and 20" model. The PE firm receives two types of payments under this model.

The first payments are annual management fees that equal 2 percent of the total amount that investors have committed to the fund (Altegris Advisors 2019). However, these fees may be somewhat lower for large investment funds and funds managed by PE firms with weaker track records (Khoury and Peghini 2019). Once the investment period ends, these fees may also decrease because they may be based on the amounts the fund currently has invested, rather than the amounts that were originally committed (Mercer 2015).

The second payments are a share of the profits that the PE firm receives when it sells one of the fund's portfolio companies. These payments are frequently referred to as "carried interest" and typically equal 20 percent of the profits from the sale.⁷ However, the PE firm does

not receive carried interest unless the profits exceed a minimum threshold, which is known as the hurdle rate and typically ranges from 6 percent to 10 percent (Altegris Advisors 2019). These payments appear to account for most of the profits that PE firms receive.

Returns on private equity are similar to returns from mutual funds that invest in smaller companies

There is a debate as to whether PE investments have historically generated better returns than investments in publicly traded stocks. For example, one study found that PE funds outperformed public equity before 2006 by 3 percent to 4 percent (Harris et al. 2015). However, another study recently argued that the higher return may just be a function of the comparison group, and it found that the premium is diminished if the comparison group consisted of smaller companies rather than index funds of large corporations (Phalippou 2020). While there is disagreement regarding the historic premium earned by PE before 2006, there is greater agreement that PE returns have been similar to public equity returns over the past decade. For example, the PE firm Bain Capital recently reported that "Since 2009, when the global economy limped out of the worst recession in generations, U.S. public equity returns have essentially matched returns from U.S. buyouts at around 15%" (Bain & Company 2020b). Phalippou also found similar returns for private and public equity in recent years (Phalippou 2020).

The decline in PE returns relative to public equity should not be surprising. Because of a historical perception that PE had higher returns (and provided additional portfolio diversification), there was a large expansion in institutional investments in PE funds. Institutional investors wanted to replicate the success of some high-profile PE investors such as the Yale University Endowment (Bary 2019). As the amount of capital searching for acquisitions grew, the prices paid for companies (expressed as a multiple of their cash flow) increased (Bain & Company 2020b). As the purchase price increases, the expected return should decrease relative to alternative investments. Despite the lack of superior returns in recent years, institutional investors continue to allocate dollars to PE funds, resulting in PE firms holding "record levels" of uninvested capital (known as "dry powder") (Bain & Company 2021).

The similarity in the returns for private and public equity raises the question of why investments in PE funds have continued to grow. One possible explanation is that PE

fund performance varies widely, with funds in the top quartile performing significantly better than the median or average PE fund (Bain & Company 2020b, Mercer 2015). Some PE firms have shown that they can consistently generate above-average returns, and those firms appear to be attracting an increasing share of the money being committed to PE investment funds (Bain & Company 2021, Bain & Company 2020b).

PE involvement in the health care sector has been growing

While PE buyouts have been evident in the economy since the 1980s, their role in health care became more noticeable only over the past two decades. More recently, the share of PE deal values devoted to health care buyouts in 2019 was roughly proportional to health care's share of the U.S. gross domestic product. One major PE firm estimates that in 2019, PE buyout deals involving North American health care providers totaled \$46.7 billion, up from \$29.6 billion in the prior year (Bain & Company 2020a).

Purchases of and investments in health care providers accounted for about 60 percent of all health care–related buyout transactions in 2019—96 deals, up from 84 in 2018 (Bain & Company 2020a). PE funds invested in retail health; behavioral health and substance abuse centers; home health and hospice care; and physician practice management in specialties that have been more fragmented, such as radiology, gastroenterology, ophthalmology, and dermatology. After PE deals involving providers, the most common transactions involved buyouts of biopharma-related firms, medical technology firms, and companies that provide services to health plans. Health care information technology was also the focus of many buyout deals, including firms that facilitate pharmaceutical drug trials, develop electronic health record software for behavioral health, and oversee revenue cycle management (e.g., debt collection).

One major reason health care has become a focus of PE investment in the U.S. is the projected demand for services related to the aging population. Before the current pandemic, the combination of stable and often growing demand for health care, the use of insurance, and the prominence of fee-for-service (FFS) payment meant predictable cash flow to health care providers. Meanwhile, the fragmented structure of categories of health care providers (such as certain specialists) and changes in technology make health care an investment target for PE funds that can consolidate providers into larger bargaining

entities. The growth of PE investment has also been driven by an extended period of low interest rates, which has encouraged investors to find other ways to generate attractive returns.

Many Medicare providers have complex business structures that make it difficult to identify ownership and control

Understanding which individuals or entities own a Medicare provider and what their track record of operations is could help to improve oversight and safeguard patient care. Transparent ownership information may also help beneficiaries and their families as they select health care providers. In particular, safety, quality, and compliance with federal regulations at nursing homes have been longstanding problems, and some operators have been repeat offenders in providing substandard care (Hawes et al. 2012).⁸ Today, about 60 percent of nursing homes are owned by chains (primarily smaller, regional for-profit entities), and PE firms own approximately 11 percent of facilities (Harrington et al. 2021).⁹ Changes over time in how providers structure their organizations have made it difficult to identify nursing homes' owners or chains with common underlying ownership which, in turn, makes it difficult to enforce regulations (Wells and Harrington 2013).

In the request, the Commission was asked to identify gaps in Medicare data and in CMS's Change of Ownership (CHOW) approval process that make it difficult to track PE investments. Here we review CMS's enrollment process and the information it collects in the Provider Enrollment, Chain, and Ownership System (PECOS), including CHOW data.

CMS collects data on provider ownership for Medicare's enrollment process. Data from PECOS are used to support payment, fraud prevention, and law enforcement, but also to populate other data sets such as CMS's public provider enrollment files and consumer provider comparison tools. CMS has not typically used PECOS data for program analysis or to research the prevalence of ownership types such as private equity. Applicants self-report ownership details to PECOS and CMS has no centralized data source with which to verify that information. As a result, there have been longstanding issues associated with the accuracy and completeness of PECOS's ownership data.

Across many types of owners, health care providers and suppliers have changed the ways in which they structure themselves so as to limit their legal liability. Providers that have common ownership are now structured in ways that do not make this ownership obvious. Thus, it is extremely difficult to capture within a data set and lay out an ownership hierarchy among a web of interrelated entities, and CMS's ownership data typically do not indicate a parent organization atop a hierarchy of legal entities.

We were able to identify PE investors in PECOS data for some providers but not for others. When we were able to identify PE ownership, it was because we had information from public data sources such as research reports or websites that identified PE relationships. Typically, the names of PE-backed portfolio companies were listed as owners rather than the PE funds themselves. We cannot say whether enrollment information for providers with PE investors is more complete and accurate, less so, or similar in its completeness and accuracy compared with providers that do not have PE backing.

Medicare's process for enrolling providers and suppliers

One way for CMS to protect beneficiaries and reduce improper Medicare payments is to have strong safeguards for enrolling or contracting with providers and health care organizations. CMS enters into contracts with MA plan sponsors and the agency enrolls FFS Medicare providers and suppliers. Under the MA program, private plan sponsors sign contracts with CMS that identify the parent organization that will bear risk for plan members' medical spending. Sponsors must verify that information annually. A sponsor must also provide evidence of insurance licenses that demonstrate that the states in which it operates believe the company has sufficient financial assets to bear the risk. Under traditional, or FFS, Medicare, the program typically does not require providers to bear risk, and CMS enrolls many times more providers than MA has plan sponsors.¹⁰

To become an FFS provider or supplier, a health care entity or individual practitioner must apply to enroll in Medicare, undergo background reviews and/or certification surveys, and be approved to receive a Medicare billing number. (CMS refers to facilities that bill Medicare under Part A, such as hospitals and skilled nursing facilities, as "providers." Physicians, physician group practices, and other entities that furnish services under Medicare Part B are called "suppliers.") Providers and suppliers apply

online through PECOS or by paper to their appropriate Medicare administrative contractor (MAC) or the National Supplier Clearinghouse (NSC).¹¹ Most types of institutional providers and certain organizations that bill under Part B (such as ambulatory surgical centers) must be surveyed by state agencies or an approved accreditation organization, which then makes recommendations about approval to CMS's regional offices (ROs). CMS ROs make the final decisions regarding eligibility for Medicare billing. Enrolled providers and suppliers must generally resubmit and recertify the accuracy of their enrollment information to CMS every five years or upon CMS request to retain billing privileges (called "revalidation").¹²

All Part A providers and Part B suppliers must report to CMS within 30 days any change in ownership or in control of the provider. However, Part A providers and certain Part B suppliers (such as ambulatory surgical centers that are subject to survey and certification) may need to update their PECOS data through the CHOW process. CMS defines CHOWs differently depending on the type of legal entity involved.

- In partnerships, CHOWs include the removal, addition, or substitution of a partner as permitted under state law.
- In sole proprietorships, CHOWs include transfer of title and property to another party.
- In corporations, a CHOW is typically the merger or consolidation of the provider corporation with another organization that leads to the creation of a new corporation. A corporate asset transfer would be considered a CHOW, but the transfer of corporate stock into an existing provider corporation would not.

A CHOW usually results in the transfer of the provider's Medicare billing number and provider agreement to the new owner.¹³ Typically, there is also a change to the provider's tax identification number. Both the buyer and seller must report the CHOW through PECOS, and the transaction must be approved by the applicable CMS RO. If approved, CMS automatically reassigns the provider's Medicare number to the new owner unless the buyer rejects assignment in its filing.¹⁴ After the CHOW registration is complete, only the buyer is permitted to submit claims to Medicare. Failure to report a transaction in a timely manner can result in the deactivation of billing privileges or the entire revocation of the provider's Medicare number.

Medicare Part B suppliers that are not subject to survey and certification requirements (such as physician group practices) do not undergo or register CHOWs, but they must still report changes in ownership as changes to the PECOS information within 30 days.¹⁵ In the event of, say, the sale of a group practice, the purchaser must enroll as a new Part B supplier to receive its own Medicare billing number.

The Affordable Care Act of 2010 (ACA) included provisions that permitted CMS to screen providers and suppliers more closely and aimed to increase ownership transparency, particularly for nursing homes.¹⁶ Section 6101 of the ACA expanded reporting requirements for the identities of direct and indirect controlling interests in the operations and management of skilled nursing facilities and nursing facilities (Hawes et al. 2012, Maxwell 2016). The ACA provisions also aimed to provide consumers with greater transparency about ownership on lookup tools such as CMS's Care Compare (<https://www.medicare.gov/care-compare/>).

Today, not only nursing homes but most categories of facilities and physician groups must report within PECOS every individual or organization with: (1) at least a 5 percent direct or indirect ownership interest or managerial control (including providers' mortgage holders); (2) any general or limited partnership interest; or (3) operational or managerial control. In addition, corporations must report all officers and directors. Applicants for initial Medicare enrollment or revalidation are required to submit a diagram of the entity's organizational structure, identifying the relationships among entities with ownership or managerial interests (Centers for Medicare & Medicaid Services 2020). Under a recent program integrity rule, CMS's authority was expanded to revoke or deny Medicare billing privileges to providers based not only on certain adverse actions conducted by a provider or supplier itself but also on actions by its affiliations—including those with 5 percent or more direct or indirect ownership, a general or limited partnership interest, those with day-to-day managerial control, and corporate officers or directors (Centers for Medicare & Medicaid Services 2019).¹⁷

Changes in the structure of health care organizations

Just as the legal structure of a corporation shields its shareholders and officers from the corporation's liabilities, many health care businesses have restructured themselves

to do the same. Over the past several decades, an increasing number of nursing homes, hospitals, and other providers have restructured from one organization into several single-purpose entities (SPEs) that permit investors to pool resources while limiting their liability (Casson and McMillen 2003). For example, a health system with several hospitals might register each hospital as its own limited liability company (LLC) to curb potential effects on the entire system when there is litigation against one hospital for harm or malpractice. One attorney we interviewed referred to this strategy as the “taxi cab model” in which each cab is registered as its own LLC to prevent a plaintiff from suing the entire fleet.

Nursing homes are especially reliant on Medicaid and Medicare payments for the bulk of their revenues. Enrolling each facility in a chain as its own LLC limits the risk to the entire chain if CMS excludes one facility from the programs. The owner could sell the one facility without devaluing the others. Attorneys have advised nursing home owners to establish SPEs for their facilities' real estate separately from companies that lease and operate facilities because “numerous SPEs may be less attractive as defendants than a single company with multiple operating interests and multiple real estate holdings” (Casson and McMillen 2003). Different companies use different restructuring approaches. Some subdivide down to two SPEs for each facility (an operator and the owner of real estate), while others form subsidiaries to jointly hold the real estate or operating companies for several facilities. Since 2008, real estate investment trusts have formed that hold diverse portfolios of nursing home properties as well as the properties of assisted living facilities, hospitals, ambulatory surgical centers, and medical offices. Some owners of Medicare providers also own related-party companies that provide services to the facilities under contract. In addition, it is common for nursing home owners to hire management companies as contractors to operate the facility on their behalf.

Many providers with and without PE ownership have restructured health care businesses in these ways. However, PE funds may be more likely than less financially savvy owners to protect their investments through restructuring.

Based on our interviews with attorneys who advise PE investors, some stakeholders believe that CMS's enrollment system displays a lack of understanding about how health care providers are structured today.

For example, in the case of PE funds, identifying all individuals with an ownership stake of at least 5 percent would include limited partners such as pension funds and wealthy individuals even though they are typically passive investors. Meanwhile, if a nursing home owner awarded a management contract and gave the contractor wide latitude over day-to-day operations, the owner would be required to submit updated enrollment information but the update would not prompt as much review as a CHOW (Markenson and Woffenden 2019). As another example, health care providers have restructured into LLCs, which have characteristics of both partnerships and corporations. Medicare guidance lays out what defines a CHOW for partnerships and corporations, but does not formally address how to treat LLCs.¹⁸ In the opinion of some interviewees, CMS needs to make its enrollment applications and instructions clearer about what constitutes a CHOW for businesses as they are structured today.

Gaps in data about ownership of Medicare providers

For many years, the Department of Health and Human Services Office of Inspector General (OIG) has found PECOS's ownership data incomplete and sometimes inaccurate (Maxwell 2016). Providers and suppliers self-report ownership to PECOS and CMS has no central data source with which to verify the information. OIG attributes PECOS's shortcoming in part to gaps in the efforts of the MACs and the NSC to verify key pieces of provider information during the enrollment and revalidation processes (Office of Inspector General 2016). According to an attorney we interviewed who counsels providers on regulatory filings, applicants sometimes provide incomplete information about ownership and management interests. Unless the MACs know what to look for and follow up to ask, applicants do not volunteer more information. In addition, because providers often use a complex structure of LLCs, the hierarchy of control and nature of relationships among related parties can be hard to unpack. A 2010 study by the Government Accountability Office (GAO) found that for nursing homes with common chain ownership, PECOS did not capture the hierarchy of control among their interrelated LLCs (Government Accountability Office 2010). Our own look at current PECOS data for various providers—including some with and others without PE backing—confirmed that the same issues persist. (See text box for an example of the structure of one hospital chain.)

States have their own processes for licensing providers and enrolling them for the administration of Medicaid and other programs. While a few states have more extensive transparency requirements around ownership, many do not.¹⁹ One issue commonly raised is that as one state enrolls a provider, it may not know of deficiencies at facilities in other states that have common ownership. One state licensing and certification official we interviewed told us that his state focuses on verifying information for a provider's operating company, not the owner of the real estate or the management company. He noted that his office simply does not have the resources to track down all organizations and individuals that have a direct or indirect ownership stake or a role in managing facilities. In his experience, he had been able to devote attention to tracking down ownership details only when facilities provided systematically poor care and received deficiency violations or when facilities experienced financial distress.

Because of recent high-profile bankruptcies of nursing home chains affecting facilities in several states, some state governments have taken steps to tighten requirements for licensing and disclosure. For example, in 2019, Kansas passed a law requiring applicants for nursing home licenses to disclose “every other licensed property he or she owns or has ever owned, either within Kansas or elsewhere in the United States” (Spanko 2019). The law applies to ownership stakes in both operating and real estate companies. That same year, Ohio put regulations in place requiring more disclosure about a nursing home license applicant's financial status and history (Flynn 2019). We do not yet know about the effects of those changes. One state—Virginia—has long required audited financial statements and cost reports from nursing home licensees.

Researchers, advocates, and policymakers have pressed for policies to improve the information on health care provider ownership, with the goal of making it more understandable, accurate, and available to consumers, regulators, and researchers. For example, in the wake of the coronavirus pandemic and the devastating effects it has had on nursing home residents and staff, a group of nursing home experts made several recommendations “to make ownership, management, and financing more transparent and accountable to improve U.S. nursing home care” (Harrington et al. 2021). Among their recommendations were for CMS to “augment PECOS reporting to include all parent, management, and property companies, and other related party entities and ensure

Example of a hospital chain's complex ownership structure

Some providers have complex ownership structures and related-party transactions. In the hospital-chain example that follows, we are not aware of any ownership by PE investment funds. Nevertheless, the case demonstrates how ownership, managerial control, and cash flow among related parties can be difficult to track.

Prime Healthcare Services Inc. (PHS) is a privately held for-profit company founded in 2001 that operates a chain of 31 acute care hospitals. The founder, Dr. Prem Reddy, also formed Prime Healthcare Foundation (PHF), a nonprofit entity that operates 15 hospitals donated to PHF by PHS. Some suggest the PHS strategy is to acquire and improve the profitability of financially distressed or underperforming emergency department–centered hospitals in or near large metropolitan areas (Al-Muslim 2020, FitchRatings 2020).

Members of the same family control PHS's for-profit hospitals, PHF's nonprofit hospitals, management companies that provide services to the hospitals, and real estate companies leasing facilities to the hospitals (Prime Healthcare Foundation 2019). PHS holds variable interest in medical groups and owns subsidiaries Prime Healthcare Management Inc. (PHM) and Prime Healthcare Management II Inc. (PHM II).

The latter two entities provide management, consulting, and support services to hospitals owned by PHS and PHF (Department of Justice 2018). Prime A, a company with ownership in common with PHS, holds title to two hospital facilities and leases them to PHS (Ernst & Young 2019). Prime A also rents property to PHM. PHS and PHF purchase services from three other related parties: Bio-Med Inc. (which repairs and maintains medical equipment), Hospital Business Services (which provides administrative services), and PrimEra Technologies (which provides coding and revenue cycle management services).

For this case, Provider Enrollment, Chain, and Ownership System data we examined could not provide sufficient detail to understand the various Prime relationships or hierarchy of control. Instead, the information we found came from various public disclosures around financial transactions and a settlement agreement. Indeed, it would be difficult to construct a government database that captures the entirety of these ownership relationships and related-party transactions. It is also possible that any rules set up to limit types of ownership could be circumvented through contracts with related entities that provide real estate or management services. ■

enforcement of Section 6101 of the ACA, including that companies provide a complete organizational chart.” They also called for more scrutiny of the ownership and management of nursing homes at purchase or when there is a CHOW by recommending that CMS specify minimum federal criteria that would “prevent individual or corporate owners from purchasing, operating, or managing additional facilities if they have a history of owning or operating other facilities with chronically low staffing and poor-quality care in any state.”

Access to more complete ownership data and a clearer line of sight into the top of a provider's or supplier's ownership hierarchy are important for several reasons. First, such information could improve CMS's ability to evaluate the

past business conduct of a parent organization across all the providers and suppliers it owns as the agency decides whether to extend billing privileges. Making ownership data available to researchers would improve their ability to analyze whether factors such as PE ownership affect health care spending, access, and quality of care with more confidence than they do today. Greater ownership transparency may also be useful to consumers as they choose where to seek care. However, given constrained resources and complex ownership structures, CMS and state agencies may find it infeasible to identify parent owners for the large number of providers and suppliers that enroll in Medicare. Legal structures may continue to evolve in ways that make it difficult to trace ownership,

and privacy protections also limit the amount of ownership information that CMS is permitted to make public.

Business models for PE investments in health care

All PE firms try to generate profits by using the same basic strategy: identify and acquire undervalued or underperforming companies, make them more valuable by improving their operational and financial performance, and then sell them after three to seven years for a profit. However, there is often little publicly available information about the business models that PE firms use to increase the value of their portfolio companies since those companies are privately held and are not subject to the disclosure requirements that apply to publicly traded companies.

We relied on a combination of literature reviews and interviews with outside experts (such as representatives of PE firms, physicians, consultants, and researchers) to examine the business models that PE firms use when they invest in three types of health care providers that are particularly significant to Medicare beneficiaries: hospitals, nursing homes, and physician practices. Given the breadth of PE investment in the health care sector, our findings are necessarily somewhat qualitative and difficult to generalize to other types of providers.

Private equity has invested in all three sectors but has a limited presence

We found that PE firms have acquired providers in all three sectors (hospitals, nursing homes, and physician practices), but the share of providers that are PE-owned was relatively small. Identifying PE-owned providers is difficult due to the opacity of ownership structures and the lack of a single data source to identify ownership. Researchers who want to identify PE ownership must first assemble data from various proprietary (e.g., PitchBook) and public data sources. The volume and size of deals and the number of PE firms and providers in the sector compound the challenge of assembling a data set identifying PE ownership. Given these difficulties, researchers likely undercount PE-owned providers, although researchers typically use other available research to help validate the number of PE-owned providers in a sector.

Hospitals

For-profit hospitals can be owned directly by physicians, individual investors, PE firms, publicly traded

corporations, or a mixture of these investors. Through publicly available resources, we identified 115 hospitals that were owned by PE firms at the start of 2020, representing only about 4 percent of traditional hospitals.²⁰ Other for-profit entities (such as publicly traded corporations and physician practices) own another 22 percent of traditional hospitals. The remaining 74 percent of hospitals are nonprofit or government-owned facilities.

Many hospitals have shifted back and forth among these ownership models. The most prominent example of shifting ownership is HCA Healthcare, which owns 184 hospitals, representing over 20 percent of all for-profit traditional hospitals. HCA went private in 1989, returned to being a publicly traded company in 1992, went private again in 2006 as part of a leveraged buyout led by PE firms, and became a publicly traded company again in 2010 (Wicklund 2010). However, members of the Frist family had leadership roles in the company throughout these changes, and this continuity of leadership may limit the effects of PE ownership cycling in and out of the company's capital structure. Similarly, the Steward Health Care system was formed in 2010 with PE financing (Hechinger and Willmer 2020). In 2020, the system sold its hospital real estate to a real estate investment trust, and a group of physicians bought the hospital operations from the PE fund (Steward Health Care 2020). While the system's ownership structure has changed over time, the same individual has continued to serve as its chief executive officer. The assumption of substantial lease obligations following the real estate sale may increase pressure on the operating company to generate positive cash flows, but the continuity of management may limit the degree to which operations change with ownership.²¹

The HCA and Steward models both involve acquiring hospitals and operating them under private ownership. A more controversial acquisition was a PE firm's 2018 purchase of Hahnemann University Hospital in Philadelphia from the Tenet system, where the PE firm quickly closed the hospital in 2019. However, it is not clear whether the hospital—which was losing money—would have remained open if it had been owned by a publicly traded company, a different PE firm, or a single family.

Nursing homes

PE investment in nursing homes dates to the late 1990s (Pradhan and Weech-Maldonado 2011). GAO found that almost 1,900 nursing homes were acquired by private

investment firms between 1998 and 2008 (Government Accountability Office 2010). Some of the acquisitions that GAO identified involved a nursing home's operations and real estate, while other acquisitions involved only the real estate.

Some early research on private equity and nursing homes identified two phases of PE investment in the first decade of the 2000s (Stevenson and Grabowski 2008). The first phase was limited and focused on efforts by larger for-profit chains between 2000 and 2003 to sell selected facilities in Florida in response to liability costs and liability insurance premiums that were much higher than average. The second phase was broader and included facilities from some of the nation's largest nursing home chains. While investors looked for operational inefficiencies to improve in this phase, they also "began to recognize value in the real estate assets of some of the larger chains, especially in a climate with access to relatively inexpensive capital" (Stevenson and Grabowski 2008). They noted that the predictable cash flow from government payers to the nursing home sector plus the untapped value of some companies' real estate holdings made certain nursing home chains attractive investment opportunities.

Since the first decade of the 2000s, PE firms have continued to invest in nursing homes, reflecting the persistence of favorable conditions such as low interest rates, an aging population, reliable government payers, and favorable tax treatment of earnings. One recent article, citing data from PitchBook, noted a recent uptick in PE acquisitions, with nearly 190 nursing home deals totaling about \$5.3 billion since the start of 2015, up from 116 deals totaling over \$1 billion from 2010 to 2014 (Laise 2020). Although estimates of the number of PE-owned facilities vary, about 11 percent of nursing facilities nationwide are PE owned (Harrington et al. 2021). PE-owned nursing homes are a subset of for-profit facilities, which account for about 70 percent of all nursing homes in the U.S.

Physician practices

Physician practices are a target of private equity in part because the market for physician services is fragmented. Most physicians work in small practices: In 2018, over 56 percent of nonfederal physicians were in a practice of 10 or fewer physicians. This share has declined slowly, primarily due to a move away from physicians operating as solo practitioners (Kane 2019a). At the same time,

the share of physicians in midsize practices (11 to 49 physicians) has remained steady, while the share joining groups of 50 or more or who are direct hospital employees or contractors has grown.

The structure of the market for physician services is changing rapidly through both horizontal consolidation among practices and vertical integration of practices and health systems or health plans. For the first time, in 2018, the share of employed physicians was slightly larger than the share of physician practice owners (47 percent versus nearly 46 percent) (Kane 2019b). Between 2016 and 2018, the share of all physicians affiliated with health systems grew from 40 percent to 51 percent (Furukawa et al. 2020).²² As hospitals have acquired increasing numbers of physician practices, large health plans have responded in kind, perhaps to assert their own market power or to defensively counter the market power of health systems. PE firms compete with health systems and plans for physician practices and may contribute to the increasing pace of consolidation. We do not know of evidence that indicates whether practices acquired by PE behave differently from practices acquired by health systems or plans.

Information about the extent of PE investments in physician practices is lacking, and identifying deals is challenging because not all deals are publicized and PE firms and practices commonly use nondisclosure agreements (American Medical Association 2019). Nevertheless, some researchers have begun developing databases on PE acquisitions by combining proprietary information about practice deals with other sources of data. Building such data sets is painstaking; researchers often must resort to online search engines to verify PE deals and then attempt to match the practice name and location with additional information. According to several researchers we spoke with, proprietary data on deals are more likely to include acquisitions of larger practices than smaller practices. Data limitations mean that the number of PE-affiliated practices and physicians described in the literature are likely to be underestimates.

One study examining the 2013 to 2016 period found PE investments in just 355 practices (Table 3-1, p. 88). That figure accounts for about 2 percent of the approximately 18,000 practices in the U.S. (data not shown), but it does not take into account practices that had already been acquired by PE firms, including some very large physician staffing companies that employ tens of thousands of

**TABLE
3-1****Physician groups with private equity investments, 2013–2016**

	2013	2014	2015	2016	Total	Share of total
Number of practices by specialty type						
Primary care*	13	22	13	23	71	20%
Anesthesiology	10	20	15	24	69	19
Multispecialty	15	15	19	19	68	19
Emergency medicine	10	6	10	17	43	12
Dermatology	1	5	11	18	35	10
Ophthalmology	0	2	2	7	11	3
Radiology	0	0	2	6	8	2
Orthopedic surgery	0	0	2	3	5	1
Other specialty practices	10	2	14	19	45	13
Total practices	59	72	88	136	355	100
Number of physicians by specialty type						
Anesthesiology	246	593	458	597	1,894	33
Primary care*	163	367	300	216	1,046	18
Emergency medicine	150	184	148	419	901	16
Dermatology	11	26	86	211	334	6
Radiology	4	13	159	76	252	4
Ophthalmology	6	35	68	25	134	2
Orthopedic surgery	0	13	43	74	130	2
Urgent care	41	16	32	35	124	2
Other specialties	222	166	282	229	899	16
Total physicians	843	1,413	1,576	1,882	5,714	100

Note: Components may not sum to totals because of rounding.

*Primary care includes family practice, internal medicine, and pediatrics.

Source: Zhu et al. 2020.

clinicians. The number of deals rose each year from 59 practices in 2013 to 136 in 2016. Acquired practices had a mean of four office sites and six physicians per site (Zhu et al. 2020). Out of about one million active physicians, just over 5,700 (less than 1 percent) were associated with affected practices. The most common types of practices with PE deals were primary care, anesthesiology, multispecialty, emergency medicine, and dermatology. Interest in specialties such as dermatology, ophthalmology, behavioral health, and women's health expanded after 2016 (data not shown) (Brown et al. 2020, Bruch et al. 2020a, Chen et al. 2020, O'Donnell et al. 2020, Tan et al. 2019).

Practices that provide services such as emergency medicine and anesthesiology for hospitals were among

the first wave of consolidations involving PE investment over the past 10 to 15 years. Several of the largest PE firms own physician staffing companies that were built by aggregating practices of hospitalists, emergency medicine physicians, anesthesiologists, radiologists, pathologists, and other specialists into multispecialty groups that focus on hospital services.²³ Other PE-backed single-specialty groups (for example, of anesthesiologists or radiologists) are among the largest regional entities providing those services to hospitals. PE funds (including venture capital in addition to buyout funds) have invested in primary care practices as well, but the incentives around those acquisitions may be different because many of those practices appear to be positioning themselves for risk sharing and value-based contracts. Other PE investments in primary care groups aim to ultimately fold them into

larger multispecialty practices or target specific niches such as direct primary care and self-pay concierge care. More recently, single-specialty practices in ophthalmology, dermatology, orthopedic surgery, behavioral health, obstetrics-gynecology, and gastroenterology have attracted larger numbers of “middle-market” PE funds.²⁴ Those practices are expanding by hiring new clinicians and acquiring other practices to become larger local and regional groups.

PE firms use some common strategies to make providers more profitable

Our research found that the business models that PE firms use in the hospital, nursing home, and physician sectors use many of the same strategies. In this section, we highlight strategies that are used in at least two of those sectors, looking first at strategies focused on increasing revenues and second at strategies focused on reducing costs. However, it is worth keeping in mind that many of these strategies are commonly used by other for-profit providers in these sectors and are not unique to PE-backed providers.

Strategies that focus on increasing revenues

One strategy that PE-owned providers can use to increase revenues is to simply provide more services. For example, the researchers we interviewed noted that PE-owned nursing homes can try to boost their occupancy rates, while PE-owned physician practices may take steps such as hiring additional clinicians, expanding their office hours, and using branding and advertising to attract more patients.

Providers can also try to furnish a more profitable mix of services or expand the volume of lucrative services. Nursing homes can improve their payer mix by serving more Medicare and private-pay patients and fewer Medicaid patients or by providing services with higher margins. PE firms seek to acquire physician practices that own ambulatory surgical centers or have the potential to generate additional income from highly reimbursed elective procedures and ancillary services (Casalino et al. 2019, O'Donnell et al. 2020). For example, referrals within large practices allow dermatology and ophthalmology groups to keep revenues from higher paying services such as Mohs surgeries, intravitreal injections, and cataract and retinal procedures within their practice (Chen et al. 2020, Tan et al. 2019). In addition, PE-backed practices may offer self-pay services such as cosmetic injections or laser refractive surgery (O'Donnell et al. 2020).

Another strategy for increasing revenues is to raise prices. One study found that hospitals tended to increase their charges after being acquired by PE firms (Bruch et al. 2020b). Higher charges may increase profits from out-of-network patients and from insurers that pay for outpatient services based on a percentage of charges. Another study found that PE firms often aim to aggregate large numbers of physicians who have a common specialty to gain bargaining leverage over commercial payment rates (O'Donnell et al. 2020).²⁵ This strategy has little immediate, direct impact on Medicare beneficiaries or spending because Medicare's prices are set administratively rather than negotiated. However, a potential indirect effect is that providers may, over time, prefer commercial patients for whom they are more highly reimbursed.

For many types of clinicians, demanding higher commercial prices comes with a tradeoff—they may lose volume if insurers and patients turn to other providers. However, for certain specialties such as emergency medicine, patients cannot meaningfully choose among providers.²⁶ When hospitals contract with outside companies to deliver these services, the clinicians have inherent bargaining leverage because the hospital contracts for their services separately from the group's payment arrangement with insurers (Cooper et al. 2020a). So long as the hospital continues to contract for staffing services, excluding the staffing company's clinicians from a commercial insurer's network would likely not affect their volume of care. Some of the largest physician staffing companies have used this leverage in their negotiations with insurers, but the strategy has risks for the companies. Patients with commercial insurance have sometimes been left with unexpectedly large bills for receiving care from out-of-network clinicians who work at in-network hospitals and ambulatory surgical centers (Cooper et al. 2020b, Duffy et al. 2020). In turn, the issue of surprise billing has drawn public attention and raised questions about staffing firms' future profitability now that the Congress has restricted these billing practices (Gottfried 2020).²⁷

PE firms also arrange for providers to work with related entities that share common ownership. For example, a PE firm may require nursing homes to buy goods and services from other companies that the PE firm owns, a practice known as “related party transactions.” There may be several related companies, with each one focused on a separate aspect of the nursing home's operations (e.g., staffing, therapies, purchasing), resulting in a corporate

structure that has multiple limited liability corporations under the same parent company.²⁸ While this approach can make it harder to understand the corporate structure and to litigate, one expert stressed that related parties are not problematic on their face and can be more efficient. Because transactions between health care entities, whether related or unrelated, must take into account the fair market value or risk running afoul of the federal Anti-Kickback Statute and state equivalents, the use of related parties becomes a concern only when a nursing home must pay above a fair market price for goods and services from related parties.

In the physician sector, PE firms may expand a practice by adding on subspecialty practices that give it more control over referrals. Competition for referrals from providers in other PE-backed practices may also lead to defensive consolidation. One ophthalmologist told us that his practice's referrals were being "chipped away" by rival practices that had partnered with PE funds, motivating his group to look for PE backing.

Strategies that focus on reducing costs

Consolidating providers within a given sector also allows PE firms to lower costs by taking advantage of economies of scale, a strategy particularly useful for physician practices (O'Donnell et al. 2020). For example, PE owners may consolidate "back office" services such as scheduling, coding and billing, revenue cycle management, and payroll. Smaller independent practices may not have expertise at managing administrative services efficiently; joining with larger practices and conducting some administrative functions centrally may lower their costs. An infusion of capital from PE investors may support investment in information technology to centralize quality measurement, reporting, and marketing at more favorable vendor pricing. PE capital may also allow practices to move to common electronic health records and potentially improve clinical workflow. One consultant we interviewed pointed out that PE funds offer smaller independent practices access to capital at lower borrowing rates than they would be able to obtain through other sources such as local banks. PE acquisitions in the hospital and nursing home sectors offer many of the same opportunities to realize economies of scale.

Another common strategy is to reduce labor costs. One study of the 2006 leveraged buyout of HCA found that it had slower cost growth than comparable hospitals after the leveraged buyout in part due to slower staffing growth

(Kim and McCue 2012). We also found that PE-owned hospitals tended to have lower costs than both other for-profit and nonprofit hospitals. (See Table 3-2, p. 97; we explain this analysis in more detail in the next section.) In the nursing home sector, PE-owned facilities may attempt to lower their costs by reducing staff and/or changing the mix of staff.²⁹ PE owners may be able to reduce labor costs to some extent if a nursing home's staffing exceeds federal or state minimum standards. However, according to one researcher we interviewed, many nursing homes are already at minimum nursing staffing levels when they are acquired by private equity, so cutting nursing staff further may not be feasible. In that case, the PE owners would still have latitude to reduce non-nursing staff costs, which may reduce quality of life for patients without reducing measured quality of care or affecting federally reported staffing measures.

PE firms may also try to lower labor costs when they acquire physician practices by substituting less expensive clinicians (such as physician assistants) for physicians or reducing staffing (Brown et al. 2020, Hafner and Palmer 2017). Use of these approaches is likely to vary. For example, one physician told us that his ophthalmology practice had sought a PE backer that would not reduce its workforce and that the practice had continued to pay staff during the coronavirus pandemic even though revenues were lower. However, others have had different experiences. For example, major physician staffing companies reportedly cut clinician hours and asked for voluntary furloughs as elective hospital procedures declined during the pandemic (Arnsdorf 2020).

However, PE firms also use strategies that can increase costs for providers. For example, providers that are acquired through leveraged buyouts are typically required to spend more on debt service. PE firms may also sell a provider's real estate to another company and have the provider sign a long-term lease, making the provider responsible for the lease payments. (This practice is more common for nursing homes and is discussed in more detail later in the chapter.)

Finally, PE firms often require nursing homes and physician practices to pay monitoring or management fees. These fees compensate the PE firm for the costs of overseeing and managing the provider's operations and allow PE firms to generate some returns before they exit an investment. According to one PE investor we

interviewed, the management fees for a PE-owned nursing home typically equal 5 percent to 6 percent of its gross revenues. However, it is worth noting that the fees paid by portfolio companies are generally used to reduce the management fees that the limited partners in a PE fund are required to pay the general partner.

Some PE strategies are more relevant to a particular sector

Although PE investments in hospitals, nursing homes, and physician practices have a number of common features, there are other strategies that are largely used in only one of those sectors.

Separation of real estate and operations

Nursing homes and some hospitals can be profitable investments because the investor can sell the real estate to a related company or to a third party. The proceeds from real estate sales can be disbursed as profits to the PE fund, and the facility then has to pay rent.

Starting in 2003, PE firms made several deals to purchase nursing home chains where they separated the chains' real estate and operations. Investors would buy a company, finance the deal with the chain's real estate assets (for example, by leasing its properties to help pay off debt assumed in the acquisition), and hire a separate operating company to manage the assets. The operators of the nursing homes thus became tenants instead of owners and assumed responsibility for paying the rent and all expenses of the properties, including insurance, operating expenses, and property taxes. (These types of leases are known as "triple net" leases.) The practice of separating real estate and operations is common across the industry and not limited to PE-owned facilities.³⁰

Complex corporate structures

Like the hospital chain structure described above, nursing homes with a common owner can also have complex structures that make ownership, managerial control, and cash flow difficult to track. Though this complexity is not necessarily limited to PE, private equity owners may restructure a chain by establishing a holding company that owns the entire chain, having separate LLCs for the operation of each individual facility that is part of the chain, separate LLCs that own the real estate, and a separate company that leases properties from a real estate holding company and subleases to operating companies (Government Accountability Office 2010). The text

box (pp. 92–93) explores one example of this complex structure in a PE-owned nursing home chain (Bos and Harrington 2017).

A separate set of considerations—state laws restricting the corporate practice of medicine (CPOM)—affect how PE firms structure their investments in physician practices. CPOM laws vary by state and allow certain exceptions. However, most require practices to be organized as professional corporations or professional limited liability companies—both referred to here as professional service companies (PSCs)—with owners, shareholders, and/or board members who are licensed medical providers (American Medical Association 2015). Such laws were enacted out of concern that corporate ownership's obligations to shareholders may not align with a physician's responsibilities to his or her patients and could lead to interference in the physician's independent medical judgment (American Medical Association 2019). When PE firms invest in practices, the organizational structures they set up must avoid appearing to influence physicians' behavior since that could trigger enforcement of CPOM laws or raise concerns about inducement of services under the Anti-Kickback Statute or the False Claims Act. One reason that some physicians find PE ownership appealing is that investors may be less involved in day-to-day operations compared with acquisition by a health system.

Although PE firms use a variety of structures, in states with CPOM laws, investors typically establish a relationship with a trusted medical provider who is the owner and manager of a PSC that retains ownership of a practice's clinical assets (Figure 3-4, p. 94). The PSC employs practice physicians and makes decisions on hiring and firing, credentialing, and peer review. The PE firm holds majority equity in a management services organization (MSO) that takes ownership of the practice's nonclinical assets and provides administrative and financial services to the PSC under a management services agreement (Genecov 2019). The PSC pays fees for management services to the MSO; these fees are set at fair market value, but that amount likely varies by practice. One or more representatives of the PE firm may sit on an advisory board or joint operating committee to coordinate the two entities. In states without CPOM laws, the PE firm's operating company may hold a more direct ownership stake in the clinical side of the practice but may still arrange a management services agreement for nonclinical support.

The impact of private equity ownership on the Golden Living nursing home chain

The private equity (PE) firm Fillmore Capital Partners acquired the Beverly Enterprises nursing home chain in a leveraged buyout in 2006 and renamed the company Golden Living. Following this acquisition, researchers examined changes in the chain's strategy and operations over the next 12 years (Bos and Harrington 2017). Several of those strategies predate the PE acquisition and were commonly used across the nursing home industry. The key strategies that Golden Living used are consistent with those identified in the literature on approaches that PE owners use to create value, including:

Sale of unprofitable facilities. Starting in 2001 before the PE acquisition and continuing after, Golden Living sold off more than 150 nursing homes. Divestiture was common across the industry at the time due to high liability costs in some states and changes in Medicare policy that limited per day payments.

Addition of other services and lines of business. Mainly after 2004, the company started to invest in new profitable services and lines of business, including a rehabilitation therapy company (Aegis Therapies), a hospice company (Asera Care), and a staffing company (Aedon Staffing) that targeted Medicare and private-pay patients.³¹ Golden Living often served as the “launch customer” for new lines of business.

Tighter corporate control over individual facilities. Following the PE acquisition, local managers of the

chain's facilities were given a smaller span of control, and the use of performance-related pay was introduced.

Changes in staffing. Researchers compared the chain's staffing levels pre- and postpurchase. The skill mix (the proportion of higher educated nurses when compared with lower educated nurses) was significantly higher from 2009 onward. Total staffing levels in California were lower during PE ownership but they had higher staffing levels for registered nurses than other facilities.

Corporate restructuring. Fillmore Capital created one LLC, Pearl Senior Care, to purchase Golden Living (Figure 3-3). Pearl Senior Care in turn owned another LLC, Drumm Investors, which in turn owned Golden Horizons (which operated the facilities) and Geary Property Holdings (which owned the facilities and their real estate), legally separating the operations from the buildings and the land. Postpurchase, the chain's nursing facilities leased their buildings and land. The individual Golden Living nursing homes were also split into separate LLCs. The PE owner stated that its lenders required the company to use separate LLCs to limit risk in the event of bankruptcy or litigation. The authors note that this complex structure, with separate management and property companies and multiple ownership levels, was not unique to PE-owned nursing homes and was commonly used by large nursing home chains by 2008. ■

(continued next page)

The use of platform and add-on acquisitions to consolidate physician practices

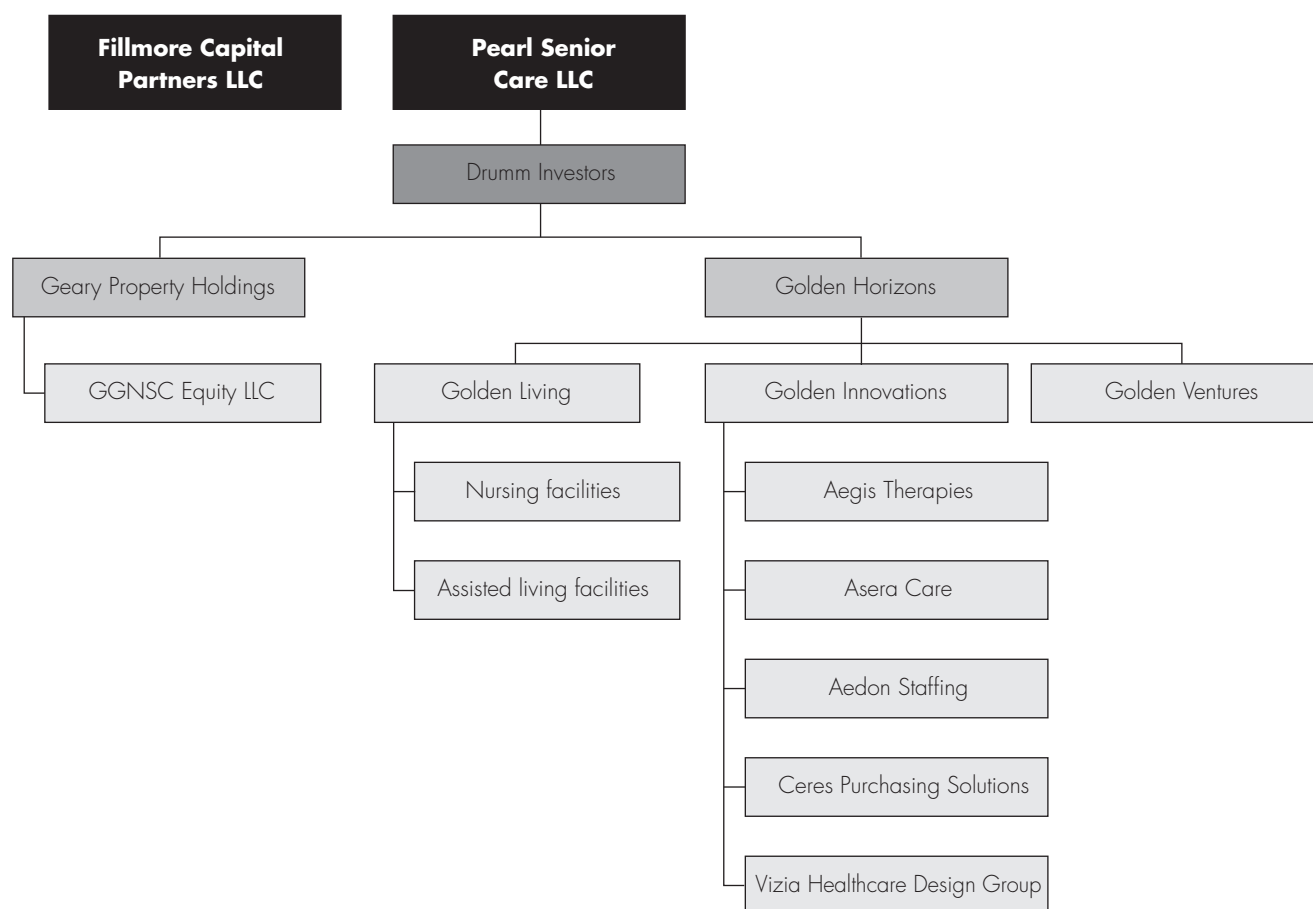
PE firms use a variety of approaches to build regional group practices, but they often first invest in a large, well-established practice (known as a platform acquisition), which then acquires smaller practices in the same or a related specialty (add-on or tuck-in acquisitions). Under this approach, the platform practice builds into a larger local or regional practice group with greater

scale economies for centralized business services (such as billing) and potentially more influence over referral patterns and commercial payment rates. PE investors use a combination of investor capital and debt to finance acquisitions, and the debt becomes the obligation of the practice (Casalino 2020). Because PE firms have a limited time horizon in which to provide returns to investors, they generally aim to exit ownership of portfolio practices after three to seven years (Casalino et al. 2019). Competition for

The impact of private equity ownership on the Golden Living nursing home chain (cont.)

**FIGURE
3-3**

The Golden Living nursing home chain had a complex corporate structure after its acquisition by a PE firm



Note: PE (private equity), LLC (limited liability company). This figure, taken from “What Happens to a Nursing Home Chain When Private Equity Takes Over? A Longitudinal Case Study,” depicts Golden Living’s corporate structure at the time of the case study’s publication in 2017. While Fillmore Capital Partners still owns Golden Living, some of the company names and ownership arrangements have changed since the publication of the case study. For example, Asera Care, a hospice provider, was sold to Amedysis in June 2020.

Source: Bos and Harrington (2017).

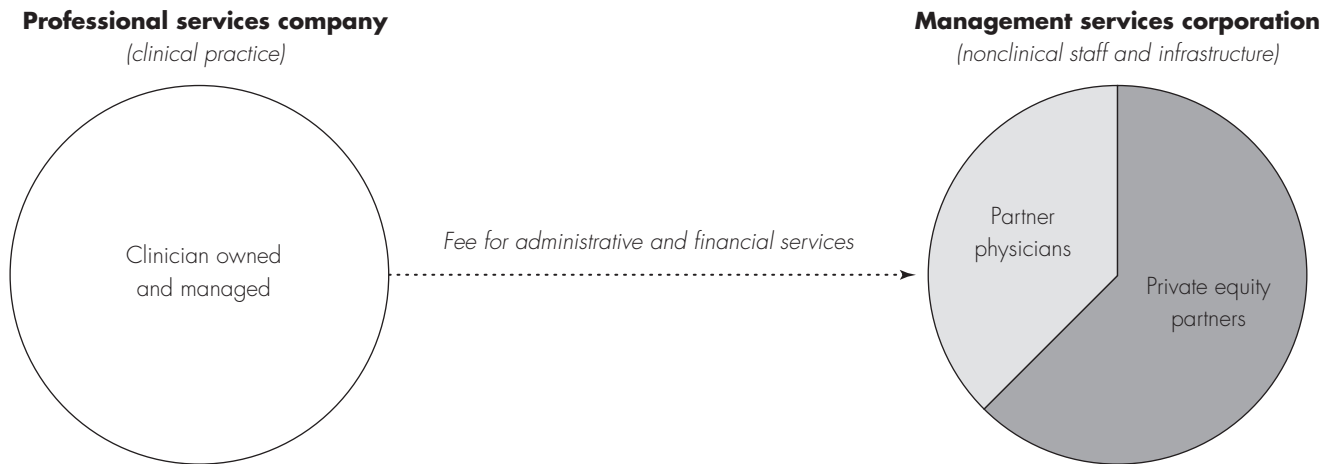
physicians among hospital-based health systems, health plans, larger physician groups, and other PE companies may all offer exit opportunities for the PE firm.

Sequential “roll-ups” (acquisitions) of physician practices by PE firms, health systems, and insurers often

are too small individually to trigger antitrust reporting requirements, yet they can result in large practice groups with market power. According to one former member of the Federal Trade Commission, the median size of recent buyouts of health care firms has been \$60 million to \$70 million, well below reporting requirements. In his

**FIGURE
3-4**

In states with laws against the corporate practice of medicine, PE firms control management service organizations rather than clinical practices



Note: PE (private equity).

Source: MedPAC analysis based on Gilreath et al. 2019.

opinion, PE firms can use this strategy to “quietly increase market power and reduce competition,” leading to a higher valuation when the company is later sold (Chopra 2020). A recent analysis documented that among group practices that initially had 100 or more physicians, about half of their growth resulted from acquisitions of small groups with 10 or fewer physicians. Another one-third of growth resulted from hiring new physicians (Capps et al. 2017).

PE firms provide upfront payments to physician owners that compensate them for the practice’s future stream of operating earnings and are calculated as a multiple of the practice’s earnings before interest, taxes, depreciation, and amortization (EBITDA). Owners of a large platform practice may receive a multiple of 8 to 12 times EBITDA (sometimes even higher), while owners of add-on acquisitions receive multiples that are considerably lower (Casalino et al. 2019, Helm 2019).³² After the add-on practice has been absorbed into the larger entity, its value increases to the same level as the platform practice (8 to 12 times EBITDA). This increase in the value of add-on practices provides an opportunity for higher returns when the PE firm sells its stake in the MSO in three to seven years.

Rollover equity

Part of the PE firm’s upfront payment for a practice reflects prospective reductions in regular compensation to the practice’s physician owners (Helm 2019). Typically, a medical practice distributes end-of-the-year profits among its partners so that the practice itself does not pay taxes (Gilreath et al. 2019). PE deals replace this approach with salaries that are typically about 30 percent lower than the physician-owners’ prior compensation (Shryock 2019). However, as part of the PE deal, founding physicians or other key practice owners also receive “rollover equity”—a minority ownership stake (e.g., 20 percent to 40 percent) to keep physicians’ incentives aligned with those of the PE investor (Casalino et al. 2019). The PE firm’s exit from a practice also provides physicians with rollover equity a chance at getting “a second bite at the apple”—a share of the profits from selling their stake to a new owner.

The future of PE investment in hospitals, nursing homes, and physician practices

While the regulatory, demographic, and payment conditions that have made health care an attractive investment remain, parts of the sector are facing

significant disruptions due to the coronavirus pandemic. Postponement and cancellation of elective procedures and in-person office visits in March and April 2020 reduced revenues of hospitals and physician practices. Many health care providers received federal assistance in 2020, allowing some providers (e.g., many hospitals) to see an increase in profitability in 2020. However, other providers (e.g., some nursing homes) struggled financially in 2020 despite federal support. COVID-19 infections and related deaths severely affected residents of nursing homes, and even though most residents have now been vaccinated, nursing home occupancy rates are expected to recover slowly. During 2020, the number of PE deals declined by one-seventh, but the value of PE investments in health care fell by about one-third (PitchBook 2021). Analysts attribute this decline to PE funds looking for bargains and sellers holding out for higher deal valuations once the pandemic has waned.

Going forward, we expect private equity to play a limited role in the hospital industry. In 2020, Cerberus Capital Management sold its interest in the Steward hospital chain (which owns 35 hospitals) to a group led by Steward physicians. Also in 2020, the publicly traded Quorum hospital chain filed for bankruptcy and was taken over by its creditors, which included PE funds. The net effect was that PE firms continue to own about 4 percent of general and acute care hospitals. Despite the fact that private equity firms have large amounts of capital to be deployed (called “dry powder”), we do not expect PE firms to acquire a large number of nonprofit or publicly traded hospitals. Most nonprofit hospitals have had strong all-payer profits in recent years and do not have need for outside capital. In addition, most publicly traded hospitals have seen their stock prices rise substantially in recent years, making them less attractive acquisition targets. Because there is little need for PE capital and no clear competitive advantage of PE ownership over other ownership structures, we do not expect PE firms to acquire large numbers of hospitals in the near future. The pace of acquisitions is more likely to be slow, reflecting incremental acquisitions by PE firms, publicly traded hospitals, and nonprofit systems. During January 2021, nonprofit health systems appeared to be making most hospital acquisitions (Hansard 2021).

PE firms have been more active in acquiring nursing homes, but it is not clear whether that level of interest will continue. Even before the pandemic, PE ownership of health care providers, including nursing homes, was

receiving renewed attention from policymakers. The impact of the coronavirus on the lives and welfare of residents and staff has intensified media coverage of nursing homes, with some reports focusing on acquisitions by PE firms during the pandemic and conditions in PE-owned facilities.³³ One study found that PE-owned facilities were less likely to have at least a one-week supply of N95 masks and medical gowns than facilities that did not have PE owners, but found no statistically significant differences in staffing levels, COVID-19 cases or deaths, or deaths from any cause between PE-owned nursing homes and facilities with other types of ownership (Braun et al. 2020). Another study found that PE-owned nursing homes were associated with a decreased probability of resident and staff cases of COVID-19 and shortages of personal protective equipment (PPE) (Gandhi et al. 2020a). Facilities previously owned by PE firms were associated with an increased probability of PPE shortages and resident outbreaks.

At an industry conference in February 2021, investors noted that the coronavirus pandemic, combined with increased scrutiny of PE ownership of nursing homes by policymakers, will likely contribute to waning PE interest in nursing homes (Spanko 2021). Where there is still interest, investors will pay close attention to the quality of the nursing home operator in a post-coronavirus world, and “turnaround” projects will be less attractive. One investor noted that how well an operator has weathered the pandemic will likely be an important signal to investors: “While buildings in different parts of the country saw wildly varied COVID-19 situations at different points in the year, they all received the same fire hose of federal support—and it will become immediately clear to curious observers how any given operator decided to deploy that money” (Spanko 2021).

PE interest in physician practices remains strong. In some specialties, PE investors hope to gain from an expected rebound in patient volumes (Hansard 2021). Practices that receive a larger proportion of their revenues through capitated payments fared relatively well during the pandemic, and financial analysts expect that PE deals with them will grow (PitchBook 2021). Other analysts have expressed concern that some physician practices, especially those in primary care, are experiencing continued economic difficulty, which may accelerate the pace of PE deals by investors seeking to acquire practices in financial distress at lower prices (Bruch et al. 2021a). Although the market for physician services is changing as

hospital systems and insurers acquire practices, it remains fragmented. Consolidating practices offers PE firms opportunities to lower some costs through economies of scale and to expand revenues through higher volume, higher commercial payment rates, and a more lucrative mix of services.

Effects of PE investment on Medicare costs, beneficiary experience, and provider experience

Estimating the effects of PE ownership first requires the accurate identification of PE-owned providers, but, as previously discussed, that process is time consuming and difficult. Given the complexity of identifying PE ownership, we used published literature, supplemented with other sources, to examine the effects of PE ownership on hospitals, nursing homes, and physician practices. Empirical literature on the effects of PE ownership on hospitals, which have had relatively few but high-profile PE owners, is relatively scant. We supplemented that literature with a cross-sectional analysis that compared PE-owned hospitals with hospitals that have other ownership structures. In contrast to hospitals, the nursing home sector has a longer history of PE ownership and more extensive literature examining its effects. We reviewed and summarized this literature on the impacts on costs and quality. For physicians, who have seen more recent PE interest, we reviewed the literature on and interviewed physicians about their experiences with PE acquisition. Empirical information about the impact of PE ownership of physician practices on Medicare spending, quality of care, and patient experience is minimal, but researchers have hypothesized about some possible effects based on PE business strategies.³⁴

Hospitals

We conducted a cross-sectional analysis of how PE-owned hospitals compare with other hospitals and report on a study that examined how hospitals change when their ownership changes. Our analysis and the literature suggest that PE owners induce an increase in hospital charges and that PE-owned hospitals tend to have lower costs and lower patient satisfaction. However, the differences between hospitals owned by private equity and other hospitals are not large, and there is a substantial overlap in

the distribution of costs and patient satisfaction among PE-owned hospitals and other hospitals. While PE ownership may influence provider costs and patient experience, it will not have a large direct effect on Medicare costs due to the program's use of prospective payment rates.

PE-owned hospitals tended to have lower costs and lower patient satisfaction

We tested whether there are any differences in the cost structures for PE-owned hospitals versus other hospitals by examining hospital costs per discharge in 2018 after adjusting for local wage rates, patient mix, and other factors.³⁵ We limited our analysis to hospitals with over 500 Medicare discharges during the year to create some stability in measures of costs per discharge. We also examined the hospitals' profit margins and the share of patients rating the hospital a 9 or 10 in their overall satisfaction of the hospital.

PE-owned hospitals tended to have lower costs and patient satisfaction than both other for-profit and nonprofit hospitals (Table 3-2).³⁶ Lower patient satisfaction is consistent with results from a similar analysis of 2018 data (Bruch et al. 2021b). The lower costs at PE-owned hospitals contributed to their higher Medicare margins. However, the PE-owned hospitals had relatively low all-payer margins in 2018. Those margins could in part reflect their payer mix, which was more heavily weighted toward Medicare and Medicaid. While there are differences in median performance, we also present the 25th and 75th percentiles of performance. There is a great deal of overlap across the categories, suggesting that different types of ownership are not associated with consistently large differences across any of the metrics we examined.

We also examined risk-adjusted mortality 30 days after discharge and risk-adjusted readmission rates 30 days after discharge using models developed by 3MTM. We did not find any statistically significant differences in mortality across the three groups of hospitals, and the relative performance of the groups depended on whether we examined means or medians (data not shown). Readmissions at PE-owned and other for-profit hospitals were 104 percent of the national median using the 3M measure. However, the readmission measure should be viewed with some caution as the demographic characteristics of the patients may affect readmissions.

The cross-sectional differences we see could be because PE firms tend to buy hospitals that already have relatively

**TABLE
3-2****Performance of PE-owned hospitals, 2018**

Characteristics	PE hospitals	Other for profit	Government/nonprofit
Number of hospitals (with over 500 Medicare discharges)	79	455	1,851
	Medians (25th to 75th percentiles)		
Cost per discharge as a share of the national median	90% ^{ab} (80 to 102%)	92% ^b (84 to 103%)	102% (92 to 113%)
Median share of patients rating the hospital a 9 or 10 (out of 10)	64% ^{ab} (58 to 68%)	68% ^b (63 to 74%)	72% (67 to 76%)
Median Medicare margin in 2018	2% ^b (-6 to 11%)	0% ^b (-10 to 8%)	-9% (-19 to 0%)
Median total (all-payer) margin in 2018	5% ^a (-3 to 12%)	10% ^b (1 to 19%)	4% (0 to 10%)
Median share of patients for whom Medicare is the primary payer	39% (29 to 46%)	35% (27 to 44%)	36% (28 to 44%)
Median share of patients for whom Medicaid is the primary payer	11% ^{ab} (4 to 19%)	5% ^b (2 to 10%)	7% (3 to 13%)

Note: PE (private equity). Sample is limited to hospitals with 2018 cost report data and over 500 Medicare discharges in 2018. Relative values are the median for the group as a share of the median of all hospitals. Per case costs are standardized for area wage rates, case-mix severity, prevalence of outlier and transfer cases, interest expenses, low-income shares, and teaching intensity. Patient ratings are from the Hospital Consumer Assessment of Healthcare Providers and Systems®. See our March 2021 report to the Congress for methodological details. Twenty of the 79 hospitals owned by PE firms were in the Steward system, which ceased to be owned by PE in 2020.

^a Indicates a statistically significant difference from other for-profit hospitals using a $p < .05$ criterion using a Tukey test to account for multiple comparisons.

^b Indicates a statistically significant difference from nonprofit hospitals using a $p < .05$ criterion using a Tukey test to account for multiple comparisons.

Source: MedPAC analysis of Medicare cost report and Hospital Compare data.

low cost structures and low patient satisfaction or because PE ownership results in lower costs and satisfaction. We cannot show causation through the cross-sectional analysis.

Changes in charges, profits, and quality metrics following PE acquisitions

A recent study by Bruch and others examined changes in charges and quality metrics after hospitals were acquired by private equity (Bruch et al. 2020b). Most of the PE-owned hospitals examined in the study were HCA hospitals that were acquired in a single transaction in 2006.

Bruch and colleagues found charges (list prices) increased following acquisitions and found mixed evidence of quality changes. The HCA hospitals showed some improvements in process measures after their ownership changed, but other hospitals acquired by PE firms failed to improve in any process measures and reported declining performance on one process measure. The mixed findings on quality make it difficult to attribute the quality changes to ownership changes, especially given the consistent hospital management at HCA. The HCA hospitals could have initiated process changes independently of the PE acquisition, and it was those efforts, rather than ownership changes, that drove improvements in process metrics. The

Bruch study did not evaluate whether the assumed quality effects of HCA going private in 2006 were reversed when it switched back to being publicly traded in 2010. The movement of HCA in and out of PE ownership illustrates the difficulty of determining the long-term effect of PE ownership, which itself is not designed to last for a long period.

Nursing homes

The literature on the effects of PE ownership on nursing homes is comparatively extensive, reflecting the long history of PE involvement in the industry, the number of nursing homes with PE owners, and the public policy interest in the effect of PE ownership.³⁷ While PE ownership could lead to lower quality of care or quality of life due to greater efforts to reduce costs or the debt that providers assume in the acquisition, researchers also point out that PE owners could make changes that improve quality, operational efficiency, and profitability (Huang and Bowlblis 2019).

Studies measuring the effect of PE ownership generally attempt to measure its average impact and distinguish any PE-specific effects from the general effects of for-profit ownership. Beyond that, however, studies vary on several key dimensions, such as the period covered (the length of the look-back period before the PE purchase and the length of the observation period after the purchase), the nursing homes examined in the study (some use data from a single state, while others are national in scope), and the method and data sources used to identify PE-owned providers. As discussed above, there is no single data source that identifies PE-owned health care providers. Researchers must decide what counts as PE ownership and use multiple data sources in a complicated and time-consuming process to identify PE-owned nursing homes. Studies also differ in their choice of impact measures (e.g., staffing, quality metrics, mortality). Measures of staffing at the facility level are commonly used because (1) staffing is widely considered an important input into the quality of care, (2) staffing is under the control of nursing home operators, and (3) administrative data on staffing are generally available. Finally, these studies vary in whether or how they account for underlying differences between nursing homes acquired by PE and other nursing homes or differences in the residents served, which can bias results.

Overall, the findings in the literature on the average effects of PE ownership on nursing home quality and costs are mixed. For example, studies have found different effects of

PE ownership on staffing levels and mix. A summary of the findings of studies published since 2012 is shown in Table 3-3. Note that most of the studies look at periods before 2010, although two working papers use more recent data.

Physician practices

According to the peer-reviewed literature and our interviews with physicians, physician experiences with PE investment have been highly variable, primarily due to differences among specialties, physicians, practice sizes, and PE firms (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019, Zhu and Polsky 2021). When a PE firm acquires a physician practice, a key downside is the physicians' loss of control over the future of the practice. This uncertainty may particularly affect early and mid-career physicians who expect to practice longer than older physicians. Physicians also sacrifice future revenue because they are selling a portion of their future revenue stream. Another issue is that physicians risk losing some of their autonomy. For example, private equity firms may cut staff, change the hours of operation, and require physicians to obtain approval to purchase new equipment. Because PE investors want to rapidly increase profits, they may create incentives for physicians to change their clinical behavior. For example, dermatologists reported pressure to increase the volume of procedures and direct pathology specimens and surgical referrals to employees of the practice (Resneck 2018). A dermatologist told us that the PE firm that acquired his practice pressured clinicians to see more patients and perform more procedures, such as biopsies and Mohs surgeries.

On the other hand, researchers and physicians also cite benefits from PE investment (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019). PE deals are often lucrative for older physicians who are seeking to exit practice ownership (Gondi and Song 2019). The large upfront payments from these deals replace physicians' future income but are taxed at capital gains rates, which are lower than income tax rates. PE buyouts may also be attractive to younger physicians who are looking for a better work-life balance and freedom from administrative and financial responsibilities (Casalino 2020).

In addition, rapid changes in the health care market (e.g., vertical and horizontal integration of providers, movement toward value-based care, and changes in information technology) have created an environment of uncertainty and higher expenses for independent

**TABLE
3-3****Overview of key studies on the effects of private equity ownership of nursing homes**

Paper title (author and year)	Summary of findings	Study population and dates
Does Private Equity Investment in Healthcare Benefit Patients? Evidence from Nursing Homes (Gupta et al. 2021)	Among patients with Medicare-covered stays, PE ownership increased mortality and spending. Researchers also observed worsening mobility and elevated use of antipsychotic medications, declines in nurse availability per patient, and declines in compliance with federal and state standards of care. Operating costs post-acquisition shifted toward non-patient care items such as monitoring fees, interest, and lease payments.	National data for 2000–2017
Private Equity, Consumers, and Competition: Evidence from the Nursing Home Industry (Gandhi et al. 2020b)	The effect of PE ownership was heterogenous with respect to levels of local market concentration: In highly competitive markets, PE owners increased staffing, while in less competitive markets they reduced staffing. Following introduction of the 5-Star Quality Rating System, PE-owned facilities increased staffing more than their non-PE counterparts, and PE facilities shifted staffing more toward RNs in response to the rating system’s emphasis on RN staffing.	National data for 1993–2017
Private Equity Ownership and Nursing Home Quality: An Instrumental Variables Approach (Huang and Bowblis 2019)	Private equity ownership does not lead to lower quality, measured using 17 resident-level quality metrics, for long-stay nursing home residents in a period of 4 to 5 years following acquisition.	Ohio only for 2005–2010
What Happens to a Nursing Home Chain When Private Equity Takes Over? A Longitudinal Case Study (Bos and Harrington 2017)	PE owners continued and reinforced several strategies that were already put in place before the takeover, including a focus on keeping staffing levels low. The new PE owners added restructuring, rebranding, and investment strategies such as establishing new companies, where the nursing home chain served as an essential “launch customer.”	A single multi-state nursing home chain from 2000–2012
Private Investment Purchase and Nursing Home Financial Health (Orfaly Cadigan et al. 2015)	PE acquisition had little impact on financial outcomes except for liquidity, the only measure with a change after acquisition that did not begin in the pre-acquisition period. At baseline, acquired nursing homes looked different than non-acquired nursing homes: They had higher occupancy, lower Medicaid/higher Medicare share of residents, lower operating expenses, higher total revenue, greater liquidity, and higher profits.	National data for 1998–2010
Private Equity Ownership of Nursing Homes: Implications for Quality (Pradhan et al. 2014)	PE nursing homes in Florida had lower RN staffing and higher LPN and CNA staffing compared with other for-profit nursing homes. The change in nurse staffing pattern was reflected in the lower skill mix of PE nursing homes post-acquisition. PE-owned facilities reported worse results on pressure sore prevention and restorative ambulation and had significantly higher numbers of deficiencies and pressure ulcer risk prevalence.	Florida only for 2000–2007
Private Equity Ownership and Nursing Home Financial Performance (Pradhan et al. 2013)	Compared with other for-profit nursing homes, PE nursing homes had higher operating revenues and costs, operating margins, and total margins and no significant differences in payer mix.	National data for 2000–2007
Nurse Staffing and Deficiencies in the Largest For-Profit Nursing Home Chains and Chains Owned by Private Equity Companies (Harrington et al. 2012)	Chains purchased by PE companies showed little change in staffing levels, but the number of deficiencies and serious deficiencies increased in some postpurchase years compared with the prepurchase period.	National data for 2003–2008

Note: PE (private equity), RN (registered nurse), LPN (licensed practical nurse), CNA (certified nursing assistant).

Source: Bos and Harrington (2017), Gandhi et al. (2020b), Gupta et al. (2021), Harrington et al. (2012), Huang and Bowblis (2019), Orfaly Cadigan et al. (2015), Pradhan et al. (2014), Pradhan et al. (2013).

practices. PE investment offers these practices “shelter from the storm” by providing them with access to capital and expertise in financial management, operations, and practice acquisition (Casalino et al. 2019, Gondi and Song 2019). PE acquisition can also help subspecialty practices maintain their access to referrals. For example, retinal specialists depend on general ophthalmologists for referrals. By combining with general ophthalmologists in a PE-owned practice, retinal specialists can secure a steady stream of referrals (Casalino 2020).

Some physicians report that practice operations and clinical decision-making have not been affected by PE ownership (Casalino 2020, Gondi and Song 2019). Among the physicians we interviewed, those who performed considerable due diligence and selected a PE firm that shared their practice’s values generally had positive experiences.

We found minimal peer-reviewed, empirical evidence about the impact of PE ownership of physician practices on spending, quality of care, and patients’ experience.³⁸ The pressure that some PE firms apply to clinicians to increase revenue by performing more procedures and ancillary services (e.g., imaging) could lead to higher spending (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019, Zhu and Polsky 2021). In addition, ophthalmology practices owned by PE investors have an incentive to use more expensive drugs, which have higher profit margins (O’Donnell et al. 2020).

Physicians’ views differ about the impact of private equity on quality of care and patients’ experience. Concerns about potentially harmful effects on quality include the following:

- The pressure on PE-owned practices to achieve high returns on investment in a short time may come at the expense of investing in quality and safety (Gondi and Song 2019).
- The focus on increasing procedures may lead to inappropriate services and reduced quality (Casalino 2020).
- Care may be delivered by nonphysician practitioners, such as physician assistants (PAs), without adequate physician supervision (Gondi and Song 2019); one physician told us that he had difficulty supervising PAs because of their high patient volume, and he did not feel comfortable with the care they provided.

- The emphasis on keeping referrals within the practice may not be consistent with patients’ needs or preferences (Gondi and Song 2019).

However, some physicians report that patient care and practice patterns do not change as a result of PE ownership (Gondi and Song 2019). During our interviews, some physicians stated that PE firms are committed to providing patients with a positive experience so they can attract new patients. Another view is that PE acquisitions can improve quality of care because physicians no longer need to focus on running a business (Casalino 2020).

Summary of effects of PE ownership

Our review of the evidence on the effects of PE ownership on hospitals, nursing homes, and physicians is summarized below.

- **Hospitals.** Our cross-sectional analysis found that PE-owned hospitals tended to have lower costs and lower patient satisfaction, but the differences between hospitals owned by private equity and other hospitals were not large. This association could be due to the type of hospitals that PE firms buy (e.g., hospitals with a low purchase price) or the effect of PE ownership on hospitals (PE firms pushing down costs). Our cross-sectional analysis cannot differentiate between these two possibilities. Longitudinal analysis in the literature suggests that following acquisitions by PE firms, hospitals tend to increase their charges at a higher rate than the average. While PE ownership may influence provider charges, it will not have a large direct effect on Medicare costs due to the program’s use of prospective payment rates. In addition, the effect of PE acquisitions on the quality of care is not clear given that we do not have consistent evidence that PE ownership has large effects on quality metrics.
- **Nursing homes.** Studies on PE ownership of nursing homes have examined a variety of quality and financial outcomes, and findings are generally mixed. One recent study found that PE ownership had no effect on total revenue or costs but found evidence of a shift in operating costs away from staffing toward monitoring fees, interest, and lease payments (Gupta et al. 2020). Another recent study found that, in highly competitive markets, PE-owned nursing homes increased staffing, while in less competitive markets they reduced staffing (Gandhi et al. 2020b).

- **Physicians.** PE investment in physician practices is relatively new, and the literature estimating the impact of PE ownership of physician practices on spending, quality of care, and patient experience is scant. The pressure that some PE firms apply to clinicians to increase revenue by performing more procedures and ancillary services (e.g., imaging) could lead to higher spending (Casalino 2020, Casalino et al. 2019, Gondi and Song 2019).

PE involvement with the Medicare Advantage program

Under the Medicare Advantage (MA) program, Medicare contracts with private plans to deliver Part A and Part B benefits to eligible beneficiaries. (Most MA plans also provide Part D drug coverage.) The share of beneficiaries enrolled in MA plans has increased steadily for more than a decade. In 2020, 43 percent of all beneficiaries with both Part A and Part B coverage were in MA, and that number is widely expected to continue growing in the coming years.

The size and scope of the MA program may provide PE firms with a wider range of investment opportunities compared with an individual provider sector. We therefore tried to assess PE activity on two levels: (1) investment in MA plan sponsors (the health insurers that offer plans) and (2) investment in related companies that work for plan sponsors (such as a company that helps manage care for enrollees with complex health needs). In addition, we examined other types of PE investment besides buyouts—such as venture capital (VC) and growth capital—because they appear to play a larger role in this area than in the three provider sectors that we already examined.

In addition, although the congressional request specifically refers to MA, we also included other private plans that provide Part A and Part B benefits but are not part of the MA program—cost plans, Medicare–Medicaid Plans, and the Program of All-Inclusive Care for the Elderly (PACE)—to provide a fuller picture of PE involvement.³⁹

PE investment in MA plan sponsors

We examined PE investment in MA plan sponsors using January 2021 information from CMS on the parent organization and tax status for each plan. The parent organization is the plan’s ultimate owner—“the legal entity

that exercises a controlling interest . . . directly or through a subsidiary or subsidiaries, and which is not itself a subsidiary of any other legal entity” (Centers for Medicare & Medicaid Services 2021a).⁴⁰ CMS also requires plans to indicate whether they are for-profit and nonprofit entities.

In January 2021, there were 309 distinct parent organizations offering Medicare health plans, with 26.6 million enrollees (Table 3–4, p. 102). Among them, 123 parent organizations operated at least one plan on a for-profit basis, and those for-profit plans had 19.9 million enrollees (about 75 percent of total enrollment). The number of parent organizations operating nonprofit plans was larger, but those plans accounted for only about 25 percent of total enrollment.

We conducted an internet search of the parent organizations with for-profit plans between December 2020 and February 2021 to determine (1) whether the organization was publicly traded or privately owned and (2) whether the organizations that are privately owned have received any investment from PE firms. Only 12 parent organizations were publicly traded, but they accounted for about 90 percent of enrollment in for-profit plans (18.0 million out of 19.9 million) and roughly two-thirds of total enrollment (under “Detail on for-profit companies” in Table 3–4, p. 102). The subset of publicly traded parent organizations is dominated by six large companies—Anthem, Centene, Cigna, CVS Health, Humana, and UnitedHealth—that collectively have 17.7 million enrollees (data not shown). The remaining 111 parent organizations that operate for-profit plans are privately owned and account for about 7 percent of total enrollment.

We found six parent organizations that are currently owned by PE firms as the result of buyouts. (Given the lack of comprehensive data on PE investment activity, there could be other PE-owned organizations that we were unable to identify.) In 2021, those organizations offer a total of 133 plans, including employer plans, and have about 497,000 enrollees, which represents about 1.7 percent of total enrollment. The bulk of those enrollees—about 450,000—are in MA plans that two organizations operate in Puerto Rico. In February 2021, one of those organizations announced it would sell its MA plans in Puerto Rico to Anthem (Tepper 2021). Once that transaction has been completed, PE-owned organizations will account for less than 1 percent of total health plan enrollment.

**TABLE
3-4****Privately owned for-profit companies account for a relatively small share of Medicare health plan enrollment, 2021**

	Parent organizations	Plans	Enrollees (in millions)	Share of enrollees
Type of company				
For profit	123	4,750	19.9	74.8%
Nonprofit	208	1,582	6.7	25.2
Total	309*	6,332	26.6	100.0
Detail on for-profit companies:				
Publicly owned	12	3,676	18.0	67.6
Privately owned	111	1,074	1.9	7.3

Note: The figures in this table are based on January 2021 enrollment in health plans that provide Part A and Part B benefits, which includes all types of Medicare Advantage plans, cost plans, Medicare–Medicaid Plans, and the Program of All-Inclusive Care for the Elderly. We counted plans using unique combinations of contract number and plan number. The table does not include stand-alone Part D prescription drug plans. Components may not sum to totals due to rounding.

*There are 22 parent organizations that have both for-profit and nonprofit divisions. These parent organizations are counted in both the “For profit” and “Nonprofit” rows. The total unduplicated number of parent organizations that offer health plans is thus 309 instead of 331.

Source: MedPAC analysis of CMS health plan enrollment data and research on health plan ownership.

In addition to buyouts, we identified 25 parent organizations where PE firms have made other investments that are either active or have recently concluded. These investments appear to be venture capital for new companies or growth capital for more established companies that want to expand. In 2021, these organizations offer 262 plans and have about 264,000 enrollees, which equals about 1 percent of total enrollment. (As with the buyouts, there may be other recipients of PE investment that we could not identify due to data limitations.) Many of these investments appear to be targeted at three types of plan sponsors: startup health insurers focused on MA and/or the ACA exchanges, provider-sponsored institutional special needs plans, and PACE.

Startup health insurers focused on MA and/or the ACA exchanges

During the past decade, several new health insurers have formed to participate in the MA program and the ACA health insurance exchanges. Some companies—such as Alignment Healthcare, Clover Health, and Devoted Health—focus exclusively on MA and have no other lines of business. Other companies, such as Oscar Health, focus primarily on the exchanges but have expanded into MA, and at least one company, Bright Health, has significant enrollment in both sectors. None of these startup insurers

operate Medicaid managed care plans or have indicated that they plan to do so.

Four of these companies—Bright Health, Clover Health, Devoted Health, and Oscar Health—have touted their use of information technology as a feature that distinguishes them from traditional insurers (for example, by enabling them to improve the beneficiary experience or better identify beneficiaries who need preventive care). These companies present themselves as startup tech companies as much as startup health insurers, and they are sometimes referred to as “insurtechs” (Accenture Insurance 2019, Muoio 2019). All four companies have raised substantial amounts of venture capital, ranging from about \$800 million to \$1.6 billion. Alignment Healthcare, Clover Health, and Oscar Health became publicly traded companies earlier this year, and Bright Health also plans to become publicly traded this year (Minemyer 2021, Schubarth 2021, Vaidya 2021, Wilhelm 2021).

Provider-sponsored institutional special needs plans

Institutional special needs plans (I-SNPs) are specialized MA plans that restrict their enrollment to beneficiaries who need the level of care provided in a long-term care facility for 90 days or longer. The sector has always been relatively small due to limited interest from plan sponsors

and nursing homes. In 2021, there are a total of 172 I-SNPs, with about 91,000 enrollees.⁴¹ UnitedHealth has long been the primary sponsor of I-SNPs; its plans cover about 65 percent of all I-SNP enrollees. The second-largest sponsor, Anthem, accounts for only 7 percent of the market.

However, over the past five years, a growing number of nursing homes have started becoming plan sponsors in their own right—as opposed to simply participating in the provider networks of MA plans—and offering an I-SNP to the residents of their facilities. For nursing homes, these provider-sponsored I-SNPs are viewed as a way to get more control over their revenues (the share of residents enrolled in MA plans has been growing, but MA payment rates for skilled nursing care are generally lower than FFS rates) and retain any profits generated by the I-SNP model, which focuses on reducing hospital admissions by providing more primary care in the nursing home.

PE firms have invested in companies that help launch and operate these new I-SNPs. These companies first recruit nursing homes in a geographic region, usually a metropolitan area or state, to participate in the I-SNP. These plans are often structured as joint ventures between the PE-backed companies and the nursing homes. As part of this process, these companies reach an agreement with the nursing homes on the amount of capital that each side will invest in the plan and how its profits and losses will be shared. According to one consultant we interviewed, these risk-sharing arrangements vary across nursing homes, even among the facilities that participate in the same plan. The PE-backed companies also provide funding to help the participating nursing homes obtain an insurance license, if needed, and meet state insurance requirements to maintain sufficient capital reserves. The companies also perform many of the plan’s administrative functions, such as assembling provider networks and paying claims. One of these companies, AllyAlign Health, has developed 25 plans that collectively have about 10,000 enrollees.

Representatives for one of these companies believed that PE funding had played an important role in facilitating the company’s expansion. The company had used the funding for a variety of purposes, including developing case management software that was better suited for institutional settings and hiring more capable staff. These representatives felt that PE funding was helping the company expand its operations much more rapidly than it would have if it had relied solely on the profits generated by its existing plans. These representatives also stated that

the company could not have obtained a similar amount of capital from a traditional commercial bank.

Program of All-Inclusive Care for the Elderly

PACE is another type of specialized plan that serves beneficiaries who need the level of care provided in a nursing home. Unlike I-SNPs, which largely serve beneficiaries who are already in nursing homes, PACE targets beneficiaries who still live in the community. PACE uses a distinctive model of care based on adult day-care centers that are staffed by an interdisciplinary team that provides therapy and medical services. Almost all PACE enrollees are dually eligible for Medicare and Medicaid, and PACE plans cover all Medicare and Medicaid services. PACE plans are typically small, and overall enrollment is fairly low (about 50,000).

For many years, PACE plans were required to operate as nonprofit entities, but CMS lifted this restriction in 2015 after a statutorily mandated demonstration found that for-profit PACE plans provided care that was comparable in quality (Centers for Medicare & Medicaid Services 2015). Since then, there has been some PE investment in for-profit PACE plans. The most notable example is probably InnovAge, a nonprofit PACE plan in Colorado that was acquired by a PE firm in 2016 and converted into a for-profit company (Lagasse 2016). Since then, InnovAge has acquired other plans in several states and become the largest PACE sponsor in the country, accounting for about 12 percent of total PACE enrollment. The company became publicly traded earlier this year (InnovAge 2021). Another example of PE investment is WelbeHealth, which has received VC funding and entered the PACE market in 2019. Unlike InnovAge, which has grown primarily by acquiring existing plans, WelbeHealth has focused on developing new PACE plans.

PE investment in companies that work for MA plan sponsors

In addition to investing in certain MA plan sponsors, PE firms have also invested in an array of related companies that perform a variety of functions for plan sponsors. Many of these related companies either provide services directly to MA enrollees or provide care management (or both), and some are paid using value-based arrangements where the company bears some degree of financial risk for an enrollee’s overall spending. Most of these companies are relatively new, so VC funding and growth capital appear to play a larger role than leveraged buyouts.

In this section, we provide some examples of the companies that have received funding from PE firms. We cannot offer a comprehensive overview given the limits on the available data about both PE investment activity and the extent of the relationships between these companies and MA plan sponsors, but we highlight some areas that have attracted investment in recent years.

Primary care

PE firms have invested in companies that are using several distinct business models to revamp the delivery of primary care. One set of companies operates their own networks of primary care clinics that focus largely or entirely on serving MA enrollees. These companies are paid by MA plan sponsors on a capitated basis and agree to take full financial risk for the overall Medicare costs of the enrollees they serve. Two companies that use this model and have received VC funding are Oak Street Health and Iora Health.⁴² According to the companies' websites, as of March 2021, Oak Street operated a total of 89 clinics in 13 states, while Iora Health had 47 clinics in 8 states. Oak Street became a publicly traded company in July 2020 (Reuter 2020). At the time of its IPO, the company had contracts with 23 plan sponsors, with Humana accounting for about half of its capitated revenues, and it served 55,000 MA enrollees where it was paid on a capitated basis (Securities and Exchange Commission 2020b). Iora Health remains privately owned, and information on its relationships with MA plan sponsors is not available.

A second set of PE-backed companies, such as Aledade and agilon health, form joint ventures with physician practices that want to participate in value-based contracts with health plans. These companies do not buy the practices; instead, through the joint ventures, they bear some of the financial risk from the value-based contracts and support the practices in several ways, such as by providing better information technology, performing utilization management, and managing relationships with outside specialists. In 2020, Aledade-affiliated practices served about 100,000 MA enrollees through value-based contracts, although the amount of risk the practices bear under those contracts is unclear (Landi 2021).

Another PE-backed company, Cano Health, uses both of these models. As of January 2021, the company served about 85,000 MA enrollees where it was paid on a capitated basis. Like Oak Street, the company has relationships with numerous MA plan sponsors, but Humana accounts for the majority of its capitated enrollees

(Cano Health 2021). The company became publicly traded in 2020 (Cano Health 2020).

A third set of companies focus on delivering primary care in beneficiaries' homes to improve their health and avoid expensive emergency room visits and inpatient stays. These companies use their own providers (usually nurse practitioners and physician assistants) to deliver the in-home care and often focus on serving beneficiaries with complex health conditions. Several companies that use this model—such as ConcertoCare, DispatchHealth, Landmark Health, and Ready Responders—have received funding from VC firms. Some of the companies, such as Landmark Health, participate in value-based contracts, while others may be paid by plans on an FFS basis. Earlier this year, UnitedHealth's Optum subsidiary agreed to buy Landmark Health (Donlan 2021).

Many of these companies (in all three models) participate in other Medicare value-based programs. For example, Oak Street Health, Iora Health, agilon health, Cano Health, and Landmark Health have expanded into FFS Medicare by participating in CMS's direct contracting model (Center for Medicare & Medicaid Innovation 2020). In contrast, Aledade originally focused on developing accountable care organizations in the Medicare Shared Savings Program before expanding into value-based contracts with MA plans.

Post-acute care

PE firms have also invested in companies such as CareCentrix and naviHealth that manage the use of post-acute care on behalf of MA plan sponsors. These companies assess enrollees' care needs, encourage the use of less expensive care when appropriate (such as home health instead of skilled nursing care), and try to reduce the number of hospital readmissions. Both companies also participate in value-based contracts. Each company has been publicly traded or PE owned at different points. CareCentrix is currently owned by a PE firm, while naviHealth is now owned by UnitedHealth's Optum subsidiary, which bought it from a PE firm in 2020 (Landi 2020b).

Chronic kidney disease and end-stage renal disease

Policy makers have recently made two changes to Medicare that affect beneficiaries with chronic kidney disease (CKD) or end-stage renal disease (ESRD). The first change was the enactment of the 21st Century Cures

Act, which allowed beneficiaries with ESRD to enroll in MA plans starting in 2021. (Before that, beneficiaries who developed ESRD after enrolling in an MA plan could remain in the plan, but those who already had ESRD were prohibited from newly enrolling in a plan.) The second change was CMS's development of the Kidney Care Choices model, which aims to improve care for beneficiaries with CKD and ESRD (for example, by slowing the progression from CKD to ESRD and encouraging the use of home dialysis when possible). The model was also scheduled to start in 2021 but has been delayed to 2022.

These policy changes have led VC firms to invest in startup companies that focus on managing care for the CKD and ESRD populations. At least four companies in this sector—Cricket Health, Monogram Health, Somatus, and Strive Health—have received VC funding. Each company works with MA plans and has expressed interest in participating in value-based contracts, but the full extent of their relationships is unclear. One leading MA plan sponsor, Humana, has signed contracts with Monogram Health, Somatus, and Strive Health to care for CKD/ESRD enrollees in selected states.

Collection of diagnosis codes

Medicare payments to MA plans are risk adjusted to account for differences in enrollees' health status. The risk adjustment system that CMS has developed relies partly on the diagnosis codes from inpatient, outpatient, and physician claims, which gives MA plan sponsors an incentive to document all valid diagnosis codes for their enrollees. PE firms have invested in companies such as Cotiviti, Signify Health, and Vatica Health that help plan sponsors collect diagnosis codes. (Signify Health became a publicly traded company earlier this year.) These companies perform activities such as analyzing claims data to identify instances where diagnosis codes might be missing, using information technology to collect diagnosis codes directly from physicians' electronic health records, and conducting in-home health assessments. (Some of these companies also have other lines of business, such as helping providers participate in bundled payment programs and helping plans collect quality data.) Collecting more diagnosis codes increases Medicare payment to plans, although it is unclear whether PE-owned companies allow plan sponsors to collect more codes than they would by using other approaches, such as collecting codes themselves.

In addition, the value-based contracts that many companies described in this section sign with MA plan sponsors may also encourage the collection of more diagnosis codes. For example, companies that sign "full-risk" contracts with MA plan sponsors may be paid using capitated rates that equal a share of the plan's Medicare revenues. This arrangement gives the company with the value-based contract an incentive to collect more diagnosis codes because doing so generates more revenue for the plan sponsor, which in turn leads to more revenue for the downstream company.

Some MA plan sponsors also make investments in outside companies

We have focused on instances where PE firms invest in companies that work for MA plan sponsors, but it is worth noting that plan sponsors can also be investors in their own right. Several plan sponsors have their own VC arms, including for-profit sponsors (UnitedHealth's Optum Ventures), nonprofit sponsors (Intermountain Ventures, Kaiser Permanente Ventures, UPMC Enterprises), and a mix of for-profit and nonprofit sponsors (the Blue Cross/Blue Shield affiliates' Blue Venture Fund). As one might expect, these funds invest in startup companies that could benefit health plans and have focused on areas such as information technology and care management. For example, they have invested in some of the companies discussed in this section: CareCentrix (Blue Venture Fund), DispatchHealth (Optum Ventures), naviHealth (Blue Venture Fund), and Somatus (Blue Venture Fund, Optum Ventures). Plan sponsors that do not have their own VC arms also make investments: For example, Centene recently invested in a company working to improve the interoperability of health care data (Landi 2020a).

In addition, the second-largest MA plan sponsor, Humana, has participated in several buyouts led by PE firms. In 2018, Humana and two PE firms acquired the post-acute care company Kindred Healthcare, which operated long-term care hospitals (LTCHs), inpatient rehabilitation facilities (IRFs), home health agencies, and hospices. As part of the deal, Kindred Healthcare was split into two separate companies. The first company, which kept the Kindred Healthcare name, operates the LTCHs and IRFs and is owned entirely by the PE firms. The second company, called Kindred at Home, operates the home health agencies and hospices and is jointly owned by the PE firms (60 percent) and Humana (40 percent). Humana has the right to buy out the PE firms and take full ownership (Kindred Healthcare 2018, Mullaney 2018).

Later that year, Humana and the same PE firms purchased Curo Health Services, a hospice provider, and added it to Kindred at Home (Holly 2018).

Finally, in 2020, Humana and one of the PE firms involved in the Kindred and Curo acquisitions started a joint venture to develop a network of primary care centers focused on serving Medicare beneficiaries. The centers will be managed by a Humana subsidiary. The PE firm has a majority stake in the joint venture and can require Humana to buy it out over the next 5 to 10 years (Humana 2020).

Effect of MA-related investments on Medicare costs

We are not aware of any research that evaluates the effect that PE investment in MA-related companies has on Medicare costs. Under the MA payment system, those investments would not change Medicare spending unless they had an impact on plan bids, quality bonuses, or risk scores. Conducting that type of analysis would be challenging for several reasons. For example, CMS collects information on each plan’s ultimate owner—the parent organization—but does not know which organizations are owned by PE firms. The agency also does not collect information on plan sponsors’ contracting arrangements with other companies (which means, for example, that there is no database that identifies which plans use PE-backed companies to provide care management for enrollees with complex health needs). In addition, researchers would probably need to use encounter data to assess whether PE-backed companies had any effect on enrollees’ service use. However, the existing encounter data are incomplete and may not provide an accurate picture of utilization patterns, especially in key areas like post-acute care.

Conclusion

Private equity firms raise capital from entities such as pension funds and endowments and invest those funds in ways that they hope will generate attractive returns. Their investments can take many forms, but the approach that has generated the most debate is the leveraged buyout, which relies heavily on borrowed money and aims to generate returns within a relatively short time.

The amounts that investors have committed to PE funds have increased in recent years, and PE funds’ investment activity has grown accordingly. We found that PE funds have been active in all four sectors we examined in this chapter—hospitals, nursing homes, physician practices, and Medicare Advantage. However, their presence was relatively limited: PE firms owned roughly 4 percent of hospitals, 11 percent of nursing homes, and 2 percent of MA plan sponsors. At least 2 percent of physician practices were acquired from 2013 to 2016, but that figure does not take into account previous PE acquisitions, and it appears to have grown since then.

There is relatively little research on the effects of private equity in the sectors we examined, due in part to the challenges of identifying PE-owned providers, and the findings that are available appear to be mixed. However, we expect to see further research on this issue in the coming years, especially on acquisitions of physician practices, and those studies may provide new insights into the effects of PE investment in health care.

The debate about the merits of private equity involves many issues that lie outside Medicare’s purview, such as federal antitrust policy, whether PE firms should bear responsibility for the debt of their portfolio companies, and the tax treatment of carried interest. Even within health care, one major concern—that private equity may consolidate providers to create market power and negotiate higher payment rates—may have limited relevance for Medicare because the program largely sets its own payment rates. Nevertheless, Medicare could be affected in other ways, such as the volume and mix of services that are provided, and the program’s payment policies are often an important consideration for PE firms. Investment activity in specific sectors or markets may indicate areas where payment policies should be reexamined (for example, by addressing site-of-service differences in payment rates that make it more profitable to deliver certain services in a higher cost setting) and may highlight areas that could potentially result in lower costs or better quality (such as efforts to develop value-based payment models). ■

Endnotes

- 1 Some PE firms also make loans in addition to equity investments.
- 2 Similarly, between 2001 and 2012, the number of initial public offerings (IPOs) in the U.S. averaged 99 per year, compared with 310 IPOs annually between 1980 and 2000 (De Fontenay 2017).
- 3 These interest payments used to be fully deductible, but in 2017, the Tax Cuts and Jobs Act limited the deduction to make the treatment of debt and equity financing more comparable. Between 2018 and 2021, the deduction is capped at 30 percent of a company's earnings before interest, taxes, depreciation, and amortization (EBITDA). Starting in 2022, the deduction will be capped at 30 percent of a different metric—a company's earnings before interest and taxes (EBIT). Since EBIT is lower than EBITDA, this change will further reduce the amount of interest that companies can deduct.
- 4 There is also a relatively small secondary market where an investor can sell its ownership stake in a PE fund to another investor before the fund has reached the end of its life span.
- 5 There can be some overlap between the period when a PE firm is raising money for a new fund and the period when the fund begins making its investments. In these instances, the PE firm has raised some money for the new fund but has not yet reached its overall fundraising target.
- 6 Under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, firms are generally exempt from this “premerger notification” requirement for deals valued below a dollar threshold (Wollman 2019). The threshold was set at \$50 million in 2000 and is adjusted annually by the rate of change in the gross national product. For 2020, the threshold was \$94 million.
- 7 The term *carried interest* apparently traces back to the shipping industry, where captains would receive a share of the profits on the cargo they carried.
- 8 For this reason, CMS established a category of providers, Special Focus Facilities, to increase oversight of poorly performing nursing homes (Centers for Medicare & Medicaid Services 2021b).
- 9 In 2016, 69 percent of the nearly 15,500 nursing homes in the U.S. were for-profit entities. Fifty-eight percent of all nursing home were owned by chains (Harrington et al. 2018).
- 10 However, CMS does require some types of providers and suppliers to demonstrate that they have certain levels of financial assets to operate. For example, when a home health agency initially enrolls, it must demonstrate that it has sufficient initial reserve operating funds to operate for its first three months. Similarly, although there are some exemptions, suppliers of durable medical equipment, prosthetics, orthotics, and supplies must post surety bonds to enroll in Medicare.
- 11 The NSC processes applications for suppliers of durable medical equipment, prosthetics, orthotics, and supplies. MACs process applications of all other providers and suppliers. The MACs and the NSC are responsible for verifying the provider's name, address, tax identifiers, license, and any history of adverse actions, license revocations, or felony convictions.
- 12 Suppliers of durable medical equipment, prosthetics, orthotics, and supplies must be revalidated every three years.
- 13 However, for home health agencies, if an individual or organization acquires more than a 50 percent direct ownership interest within the first 36 months of the agency's initial enrollment (or a previous CHOW), the prospective owner must apply as a new enrollee absent a regulatory exception.
- 14 Buyers that reject assignment must apply as an initial applicant to Medicare and may be subject to a full initial accreditation survey.
- 15 Other changes in enrollment information must be reported to CMS within 90 days.
- 16 The ACA authorized CMS to expand screening requirements for enrolling all types of providers and suppliers in Medicare and Medicaid, not just nursing homes. For example, CMS places providers in risk categories and conducts more extensive review of applicants in high-risk categories (such as new home health agencies), including site visits and fingerprinting to conduct felony checks.
- 17 This expanded authority was intended, in part, to prevent providers or suppliers who committed fraud and abuse and then left the program with unpaid debt to Medicare from reenrolling while shifting their activities to an affiliated entity.
- 18 CMS often regards the transfer of an asset as a CHOW, but not the transfer of a membership interest (Markenson and Woffenden 2019). This distinction means the purchase or sale of a Medicare provider by a PE firm should require a CHOW submission to PECOS, but the entry or exit of investors in the associated PE investment fund would not.

- 19 We reviewed several state online tools that list provider ownership data. For nursing homes, many states send consumers to CMS's Care Compare tool, which makes a limited amount of ownership information available. CMS does not make comparable ownership information available for general hospitals. A few state websites provided more detailed facility information. For example, California's Department of Public Health posts a data set that lists, for each licensed facility, the names of individuals or organizations with any share of ownership of the licensee as well as the property owner, management company, and administrator. However, the data are not fully populated for all facilities.
- 20 *Traditional hospitals* refer to general and surgical hospitals that are not small rural critical access hospitals. We identified ownership by conducting an internet search on for-profit hospitals. The list of hospitals we identified may not be complete. In addition, some long-term care hospitals that provide post-acute care are owned by PE firms and are not included in our universe of general and surgical hospitals.
- 21 However, some research has suggested that adding physician ownership may result in a more favorable selection of patients. For example, see (O'Neill and Hartz 2012).
- 22 Health systems are defined here as organizations that had at least one acute care hospital and one physician group and were connected through common ownership or joint management. An affiliation was defined as common ownership or a joint management agreement.
- 23 Two such firms, TeamHealth (owned by PE firm Blackstone) and Envision (owned by KKR), have been at the center of the recent controversy over surprise billing (Gottfried 2020).
- 24 The term "middle-market" refers to firms that make smaller investments in lesser known companies. Definitions of middle-market PE investors differ, but PitchBook defines them as funds with \$100 million to \$5 billion of capital commitments.
- 25 This strategy is similar to the "physician rollup" approach used by physician practice management (PPM) companies in the 1990s (Robinson 1998). Most publicly traded PPMs went bankrupt, which one prominent economist attributed to the industry trying to grow "mindlessly fast in a fatal pas de deux with a financial market that egged the industry on with unrealistic expectations about future earnings" (Reinhardt 2000). Because more recent deals are structured differently from PPMs—including shared equity with physician owners—they may be less likely to fail (Casalino et al. 2019).
- 26 Pathologists, emergency medicine physicians, anesthesiologists, radiologists, hospitalists, neonatologists, and a limited number of other specialists are thought to be in this category.
- 27 To address these situations, the Congress included the No Surprises Act in its fiscal year 2021 omnibus spending bill. Beginning in 2022, commercial insurers may charge patients only in-network cost sharing for all out-of-network emergency facility and professional services. The law sets up a system of arbitration to determine the amounts that insurers pay facilities and clinicians. See Adler and colleagues (2021) for more details.
- 28 For an example, see <https://www.washingtonpost.com/business/2020/12/31/brius-nursing-home/>. A related concern is that these complex corporate structures make it difficult to identify a nursing home's ultimate owner and to look for quality of care issues across a chain's facilities.
- 29 Labor in nursing homes is a mix of therapy staff and nursing staff, such as more costly registered nurses (RNs) and less costly licensed practical nurses (LPNs) or certified nursing assistants. Federal requirements for nursing home staffing state that a nursing home must have 24 hours of licensed nurse (RN or LPN) coverage every day, including one RN on duty for at least 8 consecutive hours. Some states have higher or more specific staffing requirements. According to a recent study, granular staffing data from the Payroll-Based Journal (PBJ) "suggest that a large proportion of nursing homes often have daily staffing below CMS's case-mix-adjusted expected staffing levels" and that "for each staffing type and across all ownership categories, the mean PBJ-reported hours per resident day were lower than reported in CASPER [the Certification and Survey Provider Enhanced Reports]," which contain facility-reported staffing data (Geng et al. 2019). Analysis in a recent New York Times article found that the PBJ data may also overstate patient-care staffing depending on how a nursing home records the time of RNs in administrative positions (Silver-Greenberg and Gebeloff 2021).
- 30 The separation of a nursing home's assets and operations may involve a real estate investment trust (REIT), which is a public or private corporation that invests in real estate with exemptions for corporate income tax provided it meets "requirements related to sources of income and assets, payment of dividends, and diversification of ownership" (Harrington et al. 2011). In addition to the corporate tax benefits, REITs can be advantageous because they have "rental agreements in which, in addition to basic rental charges, the nursing home operating companies pay a proportion of their income to the REITs, allowing nursing homes to shift profits to the REITs and further reduce their corporate taxes (Harrington et al. 2011). REITs also offer liability protection when nursing home operators are sued because the real estate assets are legally separate from the operator.

- 31 The divestment described here is intended to show the effects of restructuring and rebranding at that time. While Fillmore Capital Partners retains ownership, some of the company names and ownership arrangements have changed since publication of the source article. For example, in June 2020, AseraCare Hospice was acquired by Amedysis Inc.
- 32 Casalino and colleagues describe PE payments to physician owners of add-on acquisitions of two to four times EBITDA or less (Casalino et al. 2019). Helm describes the same types of payments as 30 percent to 40 percent less than those paid for the platform practice (Helm 2019).
- 33 For example, see Americans for Financial Reform (2020), Goldstein et al. (2020), Laise (2020), Spanko (2020), and Tan and Chason (2020).
- 34 Cooper and colleagues examined whether a large emergency physician staffing company that engages in out-of-network billing—EmCare, today a subsidiary of Envision Healthcare—affects commercial insurance payments for physician and hospital services (Cooper et al. 2020a). After EmCare entered into a contract with a hospital and began billing for ED services, insurance payments and patient cost-sharing for ED physicians doubled and hospital facility payments also increased, driven by higher use of imaging and a rise in admissions. The authors used data from 2011 through 2015, which included a two-year period during which EmCare was owned by a PE firm (from 2011 to 2013) (Harvard T.H. Chan School of Public Health 2019). Because EmCare was owned by a PE company for only about half of the period studied, it is unclear whether EmCare’s impact on payments was related to PE ownership.
- 35 For a discussion of our methodology for standardizing hospital costs see our March 2020 report to the Congress (Medicare Payment Advisory Commission 2020).
- 36 We conducted two checks of the robustness of our findings by examining (1) 2018 costs for all hospitals, including those with fewer than 500 discharges, and (2) 2019 costs for hospitals with more than 500 discharges. We found similar results to those described in the chapter.
- 37 There is a large volume of literature on the effects of PE ownership of nursing homes generally on the quality of patient care and on the relationship between staffing and quality of care. For the latter see (Bostick et al. 2006).
- 38 See endnote 34.
- 39 Compared with MA plans, relatively few beneficiaries are enrolled in these other types of private plans. In January 2021, there were 25.9 million enrollees in MA plans and a total of 694,000 enrollees in cost plans, Medicare–Medicaid Plans, and PACE.
- 40 For example, CVS Health Corporation is listed as the parent organization on a total of 42 contracts. However, none of the legal entities that signed those contracts with CMS have “CVS” in their name. All of those entities were part of Aetna before CVS acquired it in 2018; most of them still have “Aetna” in their name, and some even have the names of other companies that Aetna acquired in earlier years, such as “Coventry” or “First Health.”
- 41 We counted plans based on the combination of contract numbers and plan numbers, but this approach arguably overstates the size of the I–SNP sector because many plans have very few enrollees. Only 96 plans have more than 100 enrollees.
- 42 Another privately owned company—ChenMed—uses this model, but we could not find any evidence that it has received PE funding.

References

- Accenture Insurance. 2019. Why American health insurtechs are attracting so much investment. Accenture Insurance blog post, July 25. <https://insuranceblog.accenture.com/why-american-health-insurtechs-are-attracting-so-much-investment>.
- Adler, L., M. Fiedler, P. Ginsburg, et al. 2021. *Understanding the No Surprises Act*. Washington, DC: USC-Brookings Schaefer Center on Health Policy.
- Al-Muslim, A. 2020. Rival companies tussle to buy Los Angeles hospital out of bankruptcy. *Wall Street Journal*, July 28.
- Altegris Advisors. 2019. *Understanding private equity: A primer*. La Jolla, CA: Altegris Advisors. https://www.altegris.com/~media/Files/CIO%20Perspectives/ACA_FocusOnPrivateEquityPrimer_Jan2019.pdf.
- American Medical Association. 2019. *Issue brief: Corporate investors*. Chicago, IL: AMA.
- American Medical Association. 2015. *Issue brief: Corporate practice of medicine*. Chicago, IL: AMA.
- Americans for Financial Reform. 2020. *Report: The deadly combination of private equity and nursing homes during a pandemic*. Washington, DC: Americans for Financial Reform. <https://ourfinancialsecurity.org/2020/08/report-3-private-equity-nursing-homes-coronavirus/>.
- Appelbaum, E., and R. Batt. 2020. *Private equity buyouts in healthcare: who wins, who loses?* Working paper #118. New York: Institute for New Economic Thinking.
- Arnsdorf, I. 2020. Overwhelmed hospitals face a new crisis: Staffing firms are cutting their doctors' hours and pay. *ProPublica*, April 3.
- Bain & Company. 2021. *Global private equity report 2021*. Boston, MA: Bain & Company.
- Bain & Company. 2020a. *Global healthcare private equity and corporate M&A report 2020*. Boston, MA: Bain & Company.
- Bain & Company. 2020b. *Global private equity report 2020*. Boston, MA: Bain & Company.
- Bary, A. 2019. Yale endowment gets a 'C' in investing. *Barron's*, October 7.
- Bos, A., and C. Harrington. 2017. What happens to a nursing home chain when private equity takes over? A longitudinal case study. *Inquiry* 54 (January–December): 1–10.
- Bostick, J. E., M. J. Rantz, M. K. Flesner, et al. 2006. Systematic review of studies of staffing and quality in nursing homes. *Journal of the American Medical Directors Association* 7, no. 6 (July): 366–376.
- Braun, R. T., H. Yun, L. P. Casalino, et al. 2020. Comparative performance of private equity-owned US nursing homes during the COVID-19 pandemic. *JAMA Network Open* 3, no. 10 (October 1): e2026702.
- Brown, B., E. O'Donnell, and L. P. Casalino. 2020. Private equity investment in behavioral health treatment centers. *JAMA Psychiatry* 77, no. 3 (March 1): 229–230.
- Bruch, J., S. Gondi, and Z. Song. 2021a. COVID-19 and private equity investment in health care delivery. *JAMA Health Forum*. Published online March 1. doi:10.1001/jamahealthforum.2021.0182.
- Bruch, J., D. Zeltzer, and Z. Song. 2021b. Characteristics of private equity-owned hospitals in 2018. *Annals of Internal Medicine* 174, no. 2 (February): 277–279.
- Bruch, J. D., A. Borsa, Z. Song, et al. 2020a. Expansion of private equity involvement in women's health care. *JAMA Internal Medicine*. Published online August 24. <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2769544>.
- Bruch, J. D., S. Gondi, and Z. Song. 2020b. Changes in hospital income, use, and quality associated with private equity acquisition. *JAMA Internal Medicine* 180, no. 11 (August 24): 1428–1435.
- Cano Health. 2021. Investor & analyst day presentation. March 4. https://canohealth.com/wp-content/uploads/2021/03/Cano-Health_Investor-and-Analyst-Day-Presentation_vFF.pdf.
- Cano Health. 2020. Cano Health, a leading value-based care delivery platform for seniors, to become publicly traded via merger with Jaws Acquisition Corp. Press release. November 12. <https://canohealth.com/cano-health-a-leading-value-based-care-delivery-platform-for-seniors-to-become-publicly-traded-via-merger-with-jaws-acquisition-corp/>.
- Capps, C., D. Dranove, and C. Ody. 2017. Physician practice consolidation driven by small acquisitions, so antitrust agencies have few tools to intervene. *Health Affairs* 36, no. 9 (September 1): 1556–1563.
- Casalino, L. P. 2020. Private equity, women's health, and the corporate transformation of American medicine. *JAMA Internal Medicine* 180, no. 11 (August 24): 1545–1546.

- Casalino, L. P., R. Saiani, S. Bhidya, et al. 2019. Private equity acquisition of physician practices. *Annals of Internal Medicine* 170, no. 2 (January 15): 114–115.
- Casson, J. E., and J. McMillen. 2003. Protecting nursing home companies: Limiting liability through corporate restructuring. *Journal of Health Law* 36, no. 4 (Fall): 577–613.
- Center for Medicare & Medicaid Innovation, Department of Health and Human Services. 2020. Notice of DCEs participating in the implementation period of the direct contracting model, global and professional options. October 30.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021a. Medicare and Medicaid programs; contract year 2022 policy and technical changes to the Medicare Advantage program, Medicare prescription drug benefit program, Medicaid program, Medicare cost plan program, and Programs of All-Inclusive Care for the Elderly. Final rule. *Federal Register* 86, no. 11 (January 19): 5864–6135.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021b. Special focus facilities program. <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Downloads/SFFList.pdf>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020. Medicare program integrity manual. Chapter 10, Section 10.6.7. Medicare enrollment. Baltimore, MD: CMS.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019. Medicare, Medicaid, and Children's Health Insurance Programs; Program integrity enhancements to the provider enrollment process. Final rule. *Federal Register* 84, no. 175 (September 10): 47794–47856.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2015. *Report to Congress: The Centers for Medicare & Medicaid Services' evaluation of for-profit PACE programs under section 4804(b) of the Balanced Budget Act of 1997*. Baltimore, MD: CMS.
- Chen, E. M., J. T. Cox, T. Begaj, et al. 2020. Private equity in ophthalmology and optometry: Analysis of acquisitions from 2012 through 2019 in the United States. *Ophthalmology* 127, no. 4 (April): 445–455.
- Chopra, R. 2020. Statement regarding private equity roll-ups and the Hart-Scott Rodino Annual Report to Congress. Commission file P110014. July 8.
- Coleman-Lochner, L., and E. Ronalds-Hannon. 2019. Everything is private equity now. *Bloomberg News*, October 3.
- Cooper, Z., F. S. Morton, and N. Shekita. 2020a. Surprise! Out-of-network billing for emergency care in the United States. *Journal of Political Economy* 128, no. 9. Electronically published August 13. <https://www.journals.uchicago.edu/doi/abs/10.1086/708819>.
- Cooper, Z., H. Nguyen, N. Shekita, et al. 2020b. Out-of-network billing and negotiated payments for hospital-based physicians. *Health Affairs* 39, no. 1 (January): 24–32.
- De Fontenay, E. 2017. The deregulation of private capital and the decline of the public company. *Hastings Law Journal* 68 (April): 445–502.
- Department of Justice. 2018. *Prime Healthcare Services and CEO to pay \$65 million to settle False Claims Act allegations*. Washington, DC: DOJ.
- Doidge, C., A. Karolyi, and R. Stulz. 2017. The U.S. listings gap. *Journal of Financial Economics* 123: 464–487.
- Donlan, A. 2021. UnitedHealth's Optum reportedly strikes deal for Landmark Health. *Home Health Care News*, February 21.
- Duffy, E. L., L. Adler, P. B. Ginsburg, et al. 2020. Prevalence and characteristics of surprise out-of-network bills from professionals in ambulatory surgery centers. *Health Affairs* 39, no. 5 (May): 783–790.
- Ernst & Young. 2019. *Consolidated financial statements: Prime Healthcare Services, Inc. and subsidiaries*. Los Angeles, CA: Ernst & Young.
- FitchRatings. 2020. Fitch assigns first-time rating of 'B(exp)' to Prime Healthcare Services, Inc.: Outlook stable. <https://www.fitchratings.com/research/corporate-finance/fitch-assigns-first-time-rating-of-b-exp-to-prime-healthcare-services-inc-outlook-stable-20-10-2020>.
- Flynn, M. 2019. By targeting skilled nursing ownership transfers, states look to prevent more Skyline-style implosions. *Skilled Nursing News*, October 21.
- Furukawa, M. F., L. Kimmey, D. J. Jones, et al. 2020. Consolidation of providers into health systems increased substantially, 2016–18. *Health Affairs* 39, no. 8 (August): 1321–1325.
- Gandhi, A., J. Song, and P. Upadrashta. 2020a. Have private equity owned nursing homes fared worse under COVID-19? <http://dx.doi.org/10.2139/ssrn.3682892>.
- Gandhi, A., Y. Song, and P. Upadrashta. 2020b. Private equity, consumers, and competition: Evidence from the nursing home industry. <http://dx.doi.org/10.2139/ssrn.3626558>.

- Genecov, L. 2019. Due diligence, structural and regulatory considerations. Presentation for the American Health Law Association. <https://vmghealth.com/wp-content/uploads/2019/05/Private-Equity-vs-Health-System-Transactions-AHLA.pdf>.
- Geng, F., D. G. Stevenson, and D. C. Grabowski. 2019. Daily nursing home staffing levels highly variable, often below CMS expectations. *Health Affairs* 38, no. 7 (July): 1095–1100.
- Gilreath, M., S. Morris, and J. V. Brill. 2019. Physician practice management and private equity: Market forces drive change. *Clinical Gastroenterology and Hepatology* 17, no. 10 (September): 1924–1928.
- Goldstein, M., J. Silver-Greenberg, and R. Gebeloff. 2020. Push for profits left nursing homes struggling to provide care. *New York Times*, May 7.
- Gondi, S., and Z. Song. 2019. Potential implications of private equity investments in health care delivery. *Journal of the American Medical Association* 321, no. 11 (March 19): 1047–1048.
- Gottfried, M. 2020. Ill-timed health care buyouts bruise KKR and Blackstone. *Wall Street Journal*, May 28.
- Government Accountability Office. 2010. *Nursing homes: Complexity of private investment purchases demonstrates need for CMS to improve the usability and completeness of ownership data*. GAO–10–710. Washington, DC: GAO.
- Gupta, A., S. Howell, C. Yannelis, et al. 2020. Does private equity investment in healthcare benefit patients? Evidence from nursing homes. <http://dx.doi.org/10.2139/ssrn.3537612>.
- Hafner, K., and G. Palmer. 2017. Skin cancers rise, along with questionable treatments. *New York Times*, November 20.
- Hansard, S. 2021. Health deals see torrid pace with physician practices in front. *Bloomberg Law*, February 22.
- Harrington, C., H. Carrillo, R. Garfield, et al. 2018. *Nursing facilities, staffing, residents and facility deficiencies, 2009 through 2016*. Washington, DC: Kaiser Family Foundation.
- Harrington, C., C. Hauser, B. Olney, et al. 2011. Ownership, financing, and management strategies of the ten largest for-profit nursing home chains in the United States. *International Journal of Health Services* 41, no. 4: 725–746.
- Harrington, C., A. Montgomery, and T. King. 2021. These administrative actions would improve nursing home ownership and financial transparency in the post COVID-19 period,” *Health Affairs* blog, February 11. www.healthaffairs.org/doi/10.1377/hblog20210208.597573/full/.
- Harrington, C., B. Olney, H. Carrillo, et al. 2012. Nurse staffing and deficiencies in the largest for-profit nursing home chains and chains owned by private equity companies. *Health Services Research* 47, no. 1 part 1 (February): 106–128.
- Harris, R., T. Jenkinson, and S. Kaplan. 2015. *How do private equity investments perform compared to public equity?* Working paper no. 2597259. Oxford: University of Oxford.
- Harvard T.H. Chan School of Public Health. 2019. *Envision Health and out-of-network billing*. Cambridge, MA: Harvard T.H. Chan School of Public Health.
- Hawes, C., D. Moudouni, R. Edwards, et al. 2012. Nursing homes and the Affordable Care Act: A ceasefire in the ongoing struggle over quality reform. *Journal of Aging & Social Policy* 24 (April): 206–220.
- Hechinger, J., and S. Willmer. 2020. Life and debt at a private equity hospital. *Bloomberg*, August 6.
- Helm, J. 2019. Trends in health system and private equity acquisitions of physician practices. Presentation for the American Health Law Association. <https://vmghealth.com/wp-content/uploads/2019/05/Private-Equity-vs-Health-System-Transactions-AHLA.pdf>.
- Holly, R. 2018. M&A and finance news: Humana completes Curo purchase. *Home Health Care News*, July 11. <https://homehealthcarenews.com/2018/07/ma-and-finance-news-humana-completes-curo-purchase/>.
- Huang, S. S., and J. R. Bowblis. 2019. Private equity ownership and nursing home quality: An instrumental variables approach. *International Journal of Health Economics Management* 19, no. 3–4 (December): 273–299.
- Humana. 2020. Humana’s Partners in Primary Care and Welsh, Carson, Anderson & Stowe form joint venture to expand the nation’s system of value-based primary care centers focused on serving Medicare patients. Press release. February 3. <https://www.humananews.com/news-details/2020/humanas-partners-in-primary-care-and-welsh-carson-anderson--stowe-form-joint-venture-to-expand-the-nations-system-of-value-based-primary-care-centers-focused-on-serving-medicare-patients/default.aspx#gsc.tab=0>.
- InnovAge. 2021. InnovAge announces pricing of initial public offering. Press release. March 4. <https://www.innovage.com/innovage-news/2021/march/innovage-announces-pricing>.
- Jacobius, A. 2017. General partners putting more money where investments are. *Pension & Investments*, March 20.

- Jones, A. 2018. Private equity funds—Minimum LP investment. *Private Equity Info* blog, April 9. <http://blog.privateequityinfo.com/index.php/2018/04/09/private-equity-funds-minimum-lp-investment/>.
- Kane, C. 2019a. *Policy research perspectives: Updated data on physician practice arrangements: For the first time, fewer physicians are owners than employees*. Chicago, IL: American Medical Association.
- Kane, C. 2019b. *Updated data on physician practice arrangements: For the first time, fewer physicians are owners rather than employees*. Chicago, IL: AMA.
- Kaplan, S., and P. Stromberg. 2009. Leveraged buyouts and private equity. *Journal of Economic Perspectives* 23, no. 1 (Winter): 121–146.
- Khoury, C., and E. Peghini. 2019. Fee structures in private equity. *Sell Side Handbook*, March 19. <http://sellsidehandbook.com/2019/03/19/fee-structures-in-private-equity/>.
- Kim, T. H., and M. J. McCue. 2012. The performance of the leveraged buyout of the Hospital Corporation of America, Inc. *Health Care Management Review* 37, no. 3 (July–September): 212–222.
- Kindred Healthcare. 2018. Humana, together with TPG Capital and Welsh, Carson, Anderson & Stowe, announce completion of the acquisition of Kindred Healthcare, Inc. Press release. July 2. <https://www.kindredhealthcare.com/about-us/news/2018/07/02/humana-together-tpg-capital-and-welsh-carson-anderson-stowe>.
- Lagasse, J. 2016. Welsh, Carson buys \$196 million stake in Innovage, helps convert senior care firm to for-profit. *Healthcare Finance News*, May 19. <https://www.healthcarefinancenews.com/news/welsh-carson-buys-196-million-stake-innovage-helps-convert-senior-care-firm-profit>.
- Laise, E. 2020. Private-equity takeover of nursing homes has reduced quality of care at critical moment, research suggests. *Market Watch*, March 14. <https://www.marketwatch.com/story/coronavirus-pandemic-puts-private-equity-ownership-of-nursing-homes-under-microscope-2020-03-14>.
- Landi, H. 2021. Aledade raises \$100M to fuel growth of MA plan partnerships. *Fierce Healthcare*, January 19. <https://www.fiercehealthcare.com/tech/aledade-raises-100m-to-fuel-growth-ma-plan-partnerships>.
- Landi, H. 2020a. Centene, Optum Ventures back \$18M investment in Diameter Health to spur health data interoperability. *Fierce Healthcare*, December 18. <https://www.fiercehealthcare.com/tech/centene-optum-ventures-back-18m-investment-diameter-health-to-spur-health-data>.
- Landi, H. 2020b. Optum scoops up post-acute care company NaviHealth. *Fierce Healthcare*, May 26. <https://www.fiercehealthcare.com/payer/optum-scoops-up-post-acute-care-software-startup-navihealth>.
- Lykken, A. 2020. After record-breaking 2019, US PE fundraising expected to dip in 2020. *PitchBook*, January 10. <https://pitchbook.com/news/articles/after-record-breaking-2019-us-pe-fundraising-expected-to-dip-in-2020>.
- Markenson, A., and T. W. Woffenden. 2019. Changes in ownership: Medicare rules and other issues. *The Health Lawyer* 31, no. 5 (June): 30–37.
- Maxwell, A. 2016. Medicare and Medicaid program integrity: Combatting improper payments and ineligible providers. Testimony of Ann Maxwell, Assistant Inspector General for Evaluation and Inspections, Office of Inspector General, U.S. Department of Health and Human Services before United States House of Representatives, Committee on Energy & Commerce, Subcommittee on Oversight and Investigations. May 24. https://oig.hhs.gov/documents/testimony/43/20160524_-_Maxwell_Testimony.pdf.
- McKinsey & Company. 2020. *A new decade for private markets: McKinsey global private markets review 2020*. Working paper no. 2597259. New York, NY: McKinsey. <https://www.mckinsey.com/~media/mckinsey/industries/private%20equity%20and%20principal%20investors/our%20insights/mckinseys%20private%20markets%20annual%20review/mckinsey-global-private-markets-review-2020-v4.ashx>.
- McKinsey & Company. 2019. *Private markets come of age: McKinsey global private markets review 2019*. New York, NY: McKinsey. <https://www.mckinsey.com/~media/McKinsey/Industries/Private%20Equity%20and%20Principal%20Investors/Our%20Insights/Private%20markets%20come%20of%20age/Private-markets-come-of-age-McKinsey-Global-Private-Markets-Review-2019-vF.ashx>.
- Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Mercer. 2015. Understanding private equity: A primer. <https://www.mercer.com/our-thinking/understanding-private-equity-a-primer.html>.
- Minemyer, P. 2021. Startup Medicare Advantage insurer Alignment Healthcare goes public. *Fierce Healthcare*, March 26.

- Moon, J. 2006. Public vs. private equity. *Journal of Applied Corporation Finance* 18, no. 3 (Summer): 76–82.
- Mullaney, T. 2018. Humana, private equity firms complete Kindred acquisition. *Home Health Care News*, July 2. <https://homehealthcarenews.com/2018/07/humana-private-equity-firms-complete-kindred-acquisition/>.
- Muoio, D. 2019. Medicare Advantage insurtech startup Clover Health raises \$500M. *MobiHealth News*, January 30. <https://www.mobihealthnews.com/content/medicare-advantage-insurtech-startup-clover-health-raises-500m>.
- O'Donnell, E. M., G. J. Lelli, S. Bhidya, et al. 2020. The growth of private equity investment in health care: Perspectives From ophthalmology. *Health Affairs* 39, no. 6 (June): 1026–1031.
- O'Neill, L., and A. J. Hartz. 2012. Lower mortality rates at cardiac specialty hospitals traceable to healthier patients and to doctors' performing more procedures. *Health Affairs* 31, no. 4 (April): 806–815.
- Office of Inspector General, Department of Health and Human Services. 2016. *Enhanced enrollment screening of Medicare providers: Early implementation results*. OEI–03–13–00050. Washington, DC: OIG.
- Orfaly Cadigan, R., D. G. Stevenson, D. J. Caudry, et al. 2015. Private investment purchase and nursing home financial health. *Health Services Research* 50, no. 1 (February): 180–196.
- Phalippou, L. 2020. An inconvenient fact: Private equity returns & the billionaire factory. Working paper. Oxford: University of Oxford.
- PitchBook. 2021. *US PE breakdown*. Seattle, WA: PitchBook. <https://pitchbook.com/news/reports/2020-annual-us-pe-breakdown>.
- Pradhan, R., and R. Weech-Maldonado. 2011. Exploring the relationship between private equity ownership and nursing home performance: A review. Blair, J.D. and Fottler, M.D. (Ed.). *Biennial Review of Health Care Management (Advances in Health Care Management, vol. 11)*. Emerald Group Publishing Limited: Bingley. [https://doi.org/10.1108/S1474-8231\(2011\)0000011007](https://doi.org/10.1108/S1474-8231(2011)0000011007).
- Pradhan, R., R. Weech-Maldonado, J. S. Harman, et al. 2014. Private equity ownership of nursing homes: Implications for quality. *Journal of Health Care Finance* 42, no. 2.
- Pradhan, R., R. Weech-Maldonado, J. S. Harman, et al. 2013. Private equity ownership and nursing home financial performance. *Health Care Management Review* 38, no. 3 (July–September): 224–233.
- Prime Healthcare Foundation Inc. 2019. Department of Treasury, Internal Revenue Service Form 990 for 2018. <https://projects.propublica.org/nonprofits/organizations/208065139>.
- Reinhardt, U. E. 2000. The rise and fall of the physician practice management industry. *Health Affairs* 19, no. 1 (January–February): 42–55.
- Resneck, J. S., Jr. 2018. Dermatology practice consolidation fueled by private equity investment: Potential consequences for the specialty and patients. *JAMA Dermatology* 154, no. 1 (January 1): 13–14.
- Reuter, E. 2020. Primary care startup Oak Street Health goes public for \$328M. *MedCity News*, August 6. <https://medcitynews.com/2020/08/primary-care-startup-oak-street-health-goes-public-for-328m/>.
- Robinson, J. C. 1998. Financial capital and intellectual capital in physician practice management. *Health Affairs* 17, no. 4 (July–August): 53–74.
- Rosov, S. 2018. *Capital formation: The evolving role of public and private markets*. Charlottesville, VA: The CFA Institute. <https://www.cfainstitute.org/-/media/documents/article/position-paper/capital-formation.ashx>.
- Schubarth, C. 2021. Clover Health goes public after merger with SPAC led by Chamath Palihapitiya. *Silicon Valley Business Journal*, January 8. <https://www.bizjournals.com/sanjose/news/2021/01/08/clover-health-ready-to-start-trading-on-nasdaq.html>.
- Securities and Exchange Commission. 2021. *Private funds statistics, second calendar quarter 2020*. Washington, DC: SEC. <https://www.sec.gov/divisions/investment/private-funds-statistics/private-funds-statistics-2020-q2.pdf>.
- Securities and Exchange Commission, Department of Health and Human Services. 2020a. Accredited investor definition. Order. *Federal Register* 85, no. 197 (October 9): 64234–64278.
- Securities and Exchange Commission. 2020b. Form S-1 registration statement for Oak Street Health Inc. July 10. <https://www.sec.gov/Archives/edgar/data/1564406/000119312520191163/d918845ds1.htm>.
- Shryock, T. 2019. Private equity is coming: What it is, what these firms want, and why your practice might be a target. *Medical Economics* 96, no. 22 (November 25): 4–8.
- Siblis Research. 2020. Total market capitalization of public U.S. companies. <https://siblisresearch.com/data/us-stock-market-value/>.

- Silver-Greenberg, J., and R. Gebeloff. 2021. Maggots, rape and yet five stars: How U.S. ratings of nursing homes mislead the public. *New York Times*, March 13.
- Spanko, A. 2021. Private equity plots ‘flight to quality’ in nursing homes amid scrutiny, ongoing pandemic. *Skilled Nursing News*, February 9. <https://skillednursingnews.com/2021/02/private-equity-plots-flight-to-quality-in-nursing-homes-amid-scrutiny-ongoing-pandemic/>.
- Spanko, A. 2020. COVID-19 brings private equity investment in nursing homes into the spotlight. *Skilled Nursing News*, March 19. <https://skillednursingnews.com/2020/03/covid-19-brings-private-equity-investment-in-nursing-homes-into-the-spotlight/>.
- Spanko, A. 2019. Kansas cracks down on nursing home owners’ finances in wake of Skyline collapse. *Nursing Home News*, April 23.
- Stevenson, D. G., and D. C. Grabowski. 2008. Private equity investment and nursing home care: Is it a big deal? *Health Affairs* 27, no. 5 (September–October): 1399–1408.
- Steward Health Care. 2020. Team of Steward doctors acquire controlling stake of Steward Health Care. Press release. June 3. <https://www.steward.org/news/2020-06-03/team-steward-doctors-acquire-controlling-stake-steward-health-care>.
- Tan, R., and R. Chason. 2020. An investment firm snapped up nursing homes during the pandemic. Employees say care suffered. *Washington Post*, December 21.
- Tan, S., K. Seiger, P. Renehan, et al. 2019. Trends in private equity acquisition of dermatology practices in the United States. *JAMA Dermatology* 155, no. 9 (September): 1013–1021.
- Tepper, N. 2021. Anthem picks up Medicaid plans in Puerto Rico. *Modern Healthcare*, February 2.
- Vaidya, A. 2021. Report: Bright Health eyes \$1B IPO. *MedCity News*, April 2. <https://medcitynews.com/2021/04/report-bright-health-eyes-1b-ipo/>.
- Wells, J., and C. Harrington. 2013. *Implementation of Affordable Care Act provisions to improve nursing home transparency, care quality, and abuse prevention*. Kaiser Family Foundation issue paper. Washington, DC: Kaiser Family Foundation.
- Whoriskey, P., and D. Keating. 2018. Overdoses, bedsores, broken bones: What happened when a private-equity firm sought to care for society’s most vulnerable. *Washington Post*, November 25.
- Wicklund, E. 2010. HCA announces plan to go public again. *Healthcare Finance News*, May 7.
- Wilhelm, A. 2021. Oscar Health prices IPO at \$39 and secures a \$9.5B valuation. *TechCrunch*, March 3. <https://techcrunch.com/2021/03/03/oscar-health-prices-ipo-at-39-and-secures-a-9-5b-valuation/>.
- Witkowski, C. 2020. Private equity and the dry powder fallacy. *Buyouts Insider*, April 30. <https://www.buyoutsinsider.com/private-equity-and-the-dry-powder-fallacy/>.
- Wollman, T. 2019. Stealth consolidation: Evidence from an amendment to the Hart-Scott-Rodino Act. *American Economic Review: Insights* 1, no. 1 (June): 77–94.
- Zhu, J. M., L. M. Hua, and D. Polsky. 2020. Private equity acquisitions of physician medical groups across specialties, 2013–2016. *Journal of the American Medical Association* 323, no. 7 (February 18): 663–665.
- Zhu, J. M., and D. Polsky. 2021. Private equity and physician medical practices—Navigating a changing ecosystem. *New England Journal of Medicine* 384, no. 11 (March 18): 981–983.

CHAPTER 4

Mandated report: Evaluating the skilled nursing facility value-based purchasing program

R E C O M M E N D A T I O N S

- 4-1** The Congress should eliminate Medicare’s current skilled nursing facility (SNF) value-based purchasing program and establish a new SNF value incentive program (VIP) that:
- scores a small set of performance measures;
 - incorporates strategies to ensure reliable measure results;
 - establishes a system for distributing rewards that minimizes cliff effects;
 - accounts for differences in patient social risk factors using a peer-grouping mechanism; and
 - completely distributes a provider-funded pool of dollars.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

-
- 4-2** The Secretary should finalize development of and begin to report patient experience measures for skilled nursing facilities.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

Mandated report: Evaluating the skilled nursing facility value-based purchasing program

Chapter summary

As mandated by the Protecting Access to Medicare Act of 2014 (PAMA), the Secretary of Health and Human Services began to implement a value-based purchasing (VBP) program for skilled nursing facilities (SNFs) on October 1, 2018. By statute, the VBP program uses a single measure (hospital readmissions) to gauge the quality of care SNFs provided to fee-for-service (FFS) beneficiaries. Each SNF's performance on the measure determines whether it receives a reward, a penalty, or no change in payment, and the size of the payment adjustment. The VBP program is funded by a 2 percent reduction to FFS payments each year (not cumulative), and Medicare retains a portion of the amount withheld as savings.

PAMA requires the Commission to review the progress of the SNF VBP program and make recommendations as appropriate on any improvements that should be made. Our analysis found that payments were lowered for almost three-quarters of providers and the rewards and penalties were relatively small. SNFs that treated high shares of fully dual-eligible beneficiaries or whose beneficiaries were medically complex were more likely to be penalized under the program, which could create incentives for providers to avoid admitting these beneficiaries. Our assessment of the SNF VBP program revealed fundamental design flaws that recent legislated changes do not correct. Because of the shortcomings of the program, the Commission recommends that the SNF VBP program be eliminated and replaced as soon as possible.

In this chapter

- Background
- Evaluation of the skilled nursing facility value-based purchasing program
- Design of a SNF value incentive program
- A SNF value incentive program would create strong incentives to improve performance and make payments more equitable
- Recommendations

Our illustrative modeling of a new program design confirmed that a program that corrects these flaws is feasible and would not create incentives for SNFs to selectively admit certain types of beneficiaries. Given that patient experience is a key measure of a provider's quality, the Commission also recommends that the Secretary should finalize development of and begin to report patient experience measures for SNFs.

Results of the first three years of the SNF VBP program

In each of the three years of the program, the majority of providers earned back some portion of the 2 percent of payments withheld, but on net their payments remained below what they would have been without the program. Across all facilities, the annual median net adjustments lowered payments by between 0.7 percent and 1.8 percent. While the majority of providers were penalized under the program each year, there was little consistency in the size of the payment adjustments between the three years. We examined performance and found that higher payment adjustments were associated with SNFs that had lower average clinical risk scores, had lower shares of fully dual-eligible beneficiaries treated, or were larger facilities.

Shortcomings of the SNF VBP program

The Commission identified five key shortcomings of the current SNF VBP design. First, the SNF VBP program assesses performance using a single outcome measure (as required by statute, all-cause readmissions), even though quality is multidimensional. Second, the minimum stay counts to include providers in the program are too low to ensure that the program rewards performance rather than random variation. Third, the performance scoring includes “cliffs”—that is, preset numeric thresholds (also required by statute)—that may not provide enough encouragement for improvement. Fourth, the design does not address variation across SNFs in the social risk factors of their patient populations, disadvantaging SNFs with high social risk populations. Finally, the SNF VBP program does not distribute the entire pool of incentive payments (also a statutory requirement) but instead retains a portion as program savings.

In the Consolidated Appropriations Act, 2021, the Congress made three changes to the SNF VBP program. First, it gave the Secretary of Health and Human Services the authority to expand the measure set. Second, the program cannot apply to providers that do not have a minimum number of cases for each measure. Third, the measures and data submitted to calculate the measures must be validated.

Depending on how the provisions are implemented, some elements of the program may be improved. However, fundamental flaws—the scoring, the lack of consideration of social risk factors, and using a portion of the incentive pool to achieve program savings—remain.

Design of a SNF value incentive program

In this report, the Commission recommends that the Congress replace the SNF VBP program with a SNF value incentive program (VIP) that includes the five key design elements described below. The SNF VIP design addresses the SNF VBP program flaws, and is based on the Commission’s principles for quality measurement and our previous work on redesigning Medicare quality incentive programs. The Commission’s recommended SNF VIP would:

- ***Score a small set of performance measures.*** Payments would be adjusted based on provider performance on a small set of outcome measures. The measure set should be revised as other measures, such as patient experience, become available.
- ***Incorporate strategies to ensure reliable measure results.*** A higher reliability standard would be used to determine the minimum number of stays required for a SNF to be included in scoring. To include low-volume providers in the program, the SNF VIP could score multiple years of performance.
- ***Establish a system for distributing rewards with minimal “cliff” effects.*** A simpler scoring approach would be used that awards points for every performance achieved with minimal use of thresholds, or cliffs. The continuous performance scale results in every SNF having an incentive to improve.
- ***Account for differences in patients’ social risk factors using a peer-grouping mechanism.*** Providers would be stratified into peer groups based on the social risk factors of their patient populations. A provider’s payment adjustment would vary based on its performance on a national performance scale and its performance relative to its peers. Providers in peer groups with high social risk patient populations would receive larger adjustments for attainments in quality compared with other providers.
- ***Distribute the entire provider-funded pool of dollars.*** All withheld funds would be distributed back to providers based on their performance. Though not explicitly designed to achieve program savings, improved provider performance (e.g., fewer readmissions) could lower program spending.

For illustrative purposes using currently available data, we modeled a VIP design for scoring SNF performance and adjusting SNF payments accordingly. The design

uses three measures: all-condition hospitalizations within the SNF stay, successful discharge to the community, and Medicare spending per beneficiary. We used the share of fully dual-eligible beneficiaries as the measure for social risk in the peer grouping mechanism because researchers have found it to be the most powerful measure in currently available data.

Our illustrative modeling found that a SNF VIP design is feasible. Across providers with similar shares of patients at social risk, the SNF VIP would increase payments for SNFs with better performance and reduce payments for those with worse performance. Peer grouping worked as intended: As a peer group's average share of fully dual-eligible beneficiaries increased, providers in the group had the potential to earn larger rewards for higher quality compared with SNFs in other peer groups. As a result, compared with the SNF VBP program, the SNF VIP would result in more equitable payments across SNFs. Also, unlike the SNF VBP program, the SNF VIP would reduce the incentive to avoid admitting beneficiaries at high social risk or with clinically complex needs. In general, except for hospital-based providers (which performed better than freestanding facilities), we found there were small differences in the SNF VIP payment adjustments by provider characteristics.

An improved SNF quality payment program with stronger incentives is not the only tool CMS has to encourage providers to improve. Public reporting of provider performance, including the measures used in the SNF VIP, holds providers accountable to consumers and encourages improvement. Public reporting of provider performance should include comparisons to national, state, and peer group performances. CMS should also target technical assistance to low-performing providers so they can develop the skills and infrastructure needed for successful quality improvement. In addition, CMS could expand its Requirements of Participation and the Special Focus Facility Program to more aggressively encourage providers to improve their quality of care. ■

Mandate to evaluate the value-based purchasing program for skilled nursing facilities

(c) MEDPAC STUDY.—Not later than June 30, 2021, the Medicare Payment Advisory Commission shall submit to Congress a report that reviews the progress of the skilled nursing facility value-based purchasing program established under section 1888(h) of the Social Security Act, as added by subsection (b), and makes recommendations, as appropriate, on any improvements that should be made to such program. For purposes of the previous sentence, the Medicare Payment Advisory Commission shall consider any

unintended consequences with respect to such skilled nursing facility value-based purchasing program and any potential adjustments to the readmission measure specified under section 1888(g)(1) of such Act, as added by subsection (a), for purposes of determining the effect of the socio-economic status of a beneficiary under the Medicare program under title XVIII of the Social Security Act for the SNF performance score of a skilled nursing facility provided under section 1888(h)(4) of such Act, as added by subsection (b). ■

Background

Quality payment programs can create incentives for providers to furnish efficient, high-quality care. Typically, these programs adjust Medicare payments to a provider based on its performance on quality and resource use measures, with providers receiving higher payments for good performance and lower payments for poor performance. A provider's performance during an assessment period is compared with that of other providers or with some performance scale and then converted to a provider-specific payment adjustment. This payment adjustment is applied to all Medicare payments for that provider in a later fiscal year.

The Protecting Access to Medicare Act of 2014 required the Secretary to implement a value-based purchasing (VBP) program for skilled nursing facilities (SNFs) that would affect fee-for-service (FFS) payments beginning on October 1, 2018. By statute, the program rewards or penalizes SNFs based on their rates of readmission to an acute care hospital. The statute also specifies the funding for the incentive payments and the distribution of those payments to SNFs. The law requires the Commission to review the progress of the SNF VBP program and make recommendations as appropriate on any improvements that should be made (see text box on the mandate). This chapter fulfills that mandate.

The Commission identified five key shortcomings of the current VBP program that could be corrected with an alternative value incentive program (VIP) design. Therefore, the Commission recommends that the Congress eliminate the current VBP and replace it with the alternative VIP as soon as practicable.

Previous related Commission work

The Commission has developed a general set of principles for how Medicare quality incentive programs should be designed (Medicare Payment Advisory Commission 2018). The Commission has applied its principles to evaluate the current hospital and Medicare Advantage (MA) quality incentive programs and to design replacement programs, and it has recommended that the Congress mandate the implementation of the Commission's hospital value incentive program (HVIP) and MA VIP in place of the current programs (Medicare Payment Advisory Commission 2020, Medicare Payment Advisory Commission 2019a, Medicare Payment Advisory Commission 2019b). The proposed SNF VIP design builds on the Commission's principles and recommended designs for hospital and MA VIPs.

In 2016, pursuant to a statutory mandate in the Improving Medicare Post-Acute Care Transformation Act of 2014, the Commission recommended design features for a unified prospective payment system (PPS) that

would establish payments for all post-acute care (PAC) providers—SNFs, home health agencies, inpatient rehabilitation facilities, and long-term care hospitals. The goal of a unified payment system is to pay similar rates for similar patients, regardless of PAC setting. In its report on a PAC PPS, the Commission recommended that a value-based purchasing program be implemented concurrently to tie Medicare’s payments to provider performance (Medicare Payment Advisory Commission 2016). This recommendation is consistent with the Commission’s principle that Medicare payments should not be made without considering the quality of care delivered to beneficiaries (Medicare Payment Advisory Commission 2018). With an eye toward common measurement across the four PAC settings, over the past two years the Commission has developed and tested uniform PAC quality and resource use measures and has used the quality measures in its assessments of the adequacy of payments to PAC providers (see the March 2021 report to the Congress).

In September 2019, the Commission discussed including these uniform PAC measures in a PAC VIP that would tie a portion of a provider’s payments to quality and resource use. Given the overlap of the types of patients receiving PAC in different settings, a single PAC VIP would allow comparisons of patient outcomes and quality of care across PAC settings. By tying payments to outcome measures, a PAC VIP would be an essential element of a unified payment system for PAC. In the Consolidated Appropriations Act, 2021, the Commission was mandated to report on a prototype value-based payment program under a unified prospective payment system for PAC services by March 15, 2022. The proposed replacement for the current VBP program for SNFs would give these providers valuable experience under a design that is likely to form the basis of a program that spans all PAC providers under a unified payment system.

Evaluation of the skilled nursing facility value-based purchasing program

As part of our mandate, we describe the design of the SNF VBP program and review results of the first three years of the program based on available data. Our analysis found that payments were lowered for almost three-quarters of providers, the rewards and penalties were relatively small, and there was little consistency in the size of a provider’s

payment adjustment across years. Our assessment of the SNF VBP program revealed fundamental flaws, including:

- the use of a single measure to gauge performance,
- a minimum case count that is too low to ensure reliable results for low-volume providers,
- a scoring approach that may not provide enough encouragement for improvement,
- a failure to address variation across SNF patient populations with respect to their social risk factors, and
- an incentive pool that is used to achieve program savings and reward providers.

The Consolidated Appropriations Act, 2021, corrected some of the flaws. However, the Commission concluded that more changes are needed and that the SNF VBP program should be immediately eliminated and replaced with a more effective design that addresses its flaws.

Design of Medicare’s SNF value-based purchasing program

Medicare began adjusting FFS payments through the SNF VBP program on October 1, 2018.¹ The VBP program must use a measure of hospital readmissions to gauge SNF quality of care provided to FFS beneficiaries. Each SNF’s performance on the measure determines whether it receives a reward, penalty, or no change in payment and the size of any payment adjustment. The VBP program is funded by a 2 percent reduction to payments each year (not cumulative), and Medicare retains a portion of the amount withheld as savings. The text box summarizes other value-based purchasing efforts to date.

Performance measure

To gauge SNF performance, the statute requires that the program use one measure—an all-cause hospital readmission rate that will be replaced with an all-condition potentially preventable hospital readmission rate as soon as practicable. Until the recent legislation expanded its authority, CMS stated that it did not have the authority to add measures to the program (Centers for Medicare & Medicaid Services 2018a, Centers for Medicare & Medicaid Services 2017, Centers for Medicare & Medicaid Services 2016). CMS plans to submit a potentially preventable hospital readmission rate measure to the National Quality Forum for endorsement, which CMS views as a preliminary step to including a measure in any

Medicare and Medicaid value-based purchasing activities

CMS began to implement Medicare value-based purchasing (VBP) programs in 2012 for dialysis centers and inpatient acute care hospitals. In 2015, CMS implemented a Value Modifier program for clinicians, which has been incorporated into the broader Quality Payment Program that began affecting clinician payment in 2019. In 2018, VBP programs began affecting payment for skilled nursing facilities (SNFs) and, on a demonstration basis, home health agencies. The programs vary in number and type of measures used to gauge performance, the duration of the period used to evaluate performance, how performance is translated into a payment adjustment, the size of the incentive payments, and whether the programs are budget neutral.

Before the SNF VBP program, CMS conducted a three-year voluntary nursing home (most SNFs are dually certified as SNFs and nursing homes) value-based purchasing demonstration in three states (Arizona, New York, and Wisconsin) that evaluators concluded had little impact on spending or quality (Grabowski et al. 2017, L & M Policy Research 2013). The demonstration offered bonus payments to facilities that lowered program spending and achieved or improved their quality performance (as measured by avoidable hospitalizations, other short-term stay and long-term stay quality measures, staffing levels, and survey inspections). The lackluster results were partly due to the demonstration VBP design features. Before a facility could earn a bonus payment, each state's participating facilities together had to achieve program savings, which were used to fund incentive payments. By tying payouts to other facilities' behavior, the performance of an individual nursing home's performance did not guarantee success under the program. Further, the multiple performance measures and complex reward structure made it difficult for homes to gauge whether changes in their behavior would translate into a reward. In addition, the incentive payments were small, and

nursing home administrators reported they made few changes in response to the demonstration. Lags between performance and payouts further undercut provider incentives to improve. Takeaways about the design of a VBP program included the following: keep the payment and incentive structure simple; increase the size of the incentive pool; base payouts on an individual provider's performance (not contingent on providers' performance collectively); and provide more timely payouts based on provider performance (Grabowski et al. 2017, L & M Policy Research 2013).

Many state Medicaid programs (25, including the District of Columbia) have some form of quality-related incentive program in making fee-for-service payments to nursing homes (Medicaid and CHIP Payment and Access Commission 2019). About half of the programs use at least one quality-of-care metric (rates of pressure ulcers and use of antipsychotic medications are the most common), about half use staffing measures (staffing hours per resident day and measures of staff retention or turnover are the most common), and 10 use a combination of the 2. Ten programs include resident satisfaction or some other quality of life measure. Although many programs do not measure readmissions, by encouraging nursing facilities to improve their care, these programs may indirectly affect the facilities' readmission rates.

A study of eight older Medicaid pay-for-performance programs (in Colorado, Georgia, Iowa, Kansas, Minnesota, Ohio, Oklahoma, and Utah between 2001 and 2009) found inconsistent improvement across the various quality measures (Werner et al. 2013). Measures that counted more for incentive payouts yielded larger improvements, while measures that counted less either did not improve or worsened (Konetzka et al. 2016). The researchers concluded that providers may have redirected their resources toward measures that were more heavily rewarded by the VBP program. ■

VBP program (Centers for Medicare & Medicaid Services 2020c). After the endorsement review is complete, CMS will assess the timing of a transition to the new measure (Centers for Medicare & Medicaid Services 2020c).

CMS defined the all-cause measure as the risk-standardized rate of SNF stays with any hospital readmissions (excluding planned readmissions) that occur within 30 days of discharge from an acute care hospital, critical

access hospital, or psychiatric hospital. CMS stated that this measure gauges failed transitions from the hospital. By excluding readmissions that occur further out from the hospital discharge, the readmissions that are counted are more likely to be related to poor transitions. The risk adjustment includes the age and sex of the beneficiary, an end-stage renal disease indicator, disability as the original reason for entitlement, principal diagnosis, surgical groups, comorbidities and presence of multiple comorbidities based on Medicare's hierarchical condition categories, the length of stay of the qualifying hospital stay, any time spent in the intensive care unit during the qualifying hospital stay, and the count of hospital stays during the previous year before the qualifying hospital stay.

The Consolidated Appropriations Act, 2021, authorized the Secretary of Health and Human Services to add measures to the program, up to a maximum of 10 measures. The new measures may include measures of functional status, patient safety, care coordination, or patient experience. The Act also calls for validation of the data collected for the new measures similar to the validation of the inpatient hospital measures. The expanded measure set can affect payments beginning in fiscal year 2024.

Minimum stay counts

The Protecting Access to Medicare Act of 2014 requires the Secretary to devise a methodology to achieve a high level of reliability and validity of the measures, especially for providers with a low volume of admissions. Reliability refers to the ability of a measure to distinguish performance among providers.² Requiring more stays to calculate a measure increases a measure's reliability but excludes providers that do not meet the minimum stay count (small providers). Validity refers to whether the measure captures what it purports to measure.

To address reliability concerns for low-volume providers, CMS established a minimum volume requirement (25 stays) in fiscal year 2020 (the second year of the program). As a result of this requirement, 16 percent of providers were assigned an adjustment that effectively holds them harmless under the program because they did not have sufficient volume. Although pooling multiple years for low-volume providers could address the problem of too few observations, CMS rejected this approach because additional factors could affect the performances of low-volume SNFs and undermine comparisons across providers (Centers for Medicare & Medicaid Services 2018a, Centers for Medicare & Medicaid Services 2018b).

CMS established the minimum stay count based on two analyses. First, it compared the level of agreement among providers' performance scores when calculated using random split samples of their stays. The agreement between samples was deemed "moderate" (correlations of 0.447) for providers with at least 25 cases (RTI International 2018). Second, CMS examined the annual volume of stays at SNFs and estimated the number of SNFs that would be excluded with various minimum counts. In CMS's analytic sample, if the minimum annual count had been set at 50 stays, 34 percent of facilities would be excluded from the VBP program, but requiring 25 stays a year would exclude only 15 percent of providers (RTI International 2018). CMS opted for the lower threshold.

To assess the validity of the measure, CMS evaluated the correlation between readmissions and four measures of quality for short-stay residents and four ratings included in the Five-Star Nursing Home Compare (now Care Compare).³ The correlations were very low but statistically significant for seven of the eight comparisons (RTI International 2015). The contractor concluded that readmission rates were related to these other dimensions of quality and therefore valid. CMS also submitted the readmission measure specification to the National Quality Forum who endorsed the measure as important, scientifically sound, relevant, and feasible (National Quality Forum 2021).

The Consolidated Appropriations Act, 2021, mandates that the SNF VBP program exclude providers that do not meet the minimum stay counts for each measure beginning in fiscal year 2023.

Performance score

The statute requires that each SNF's performance be gauged for improvement and achievement, and the incentive payment must be based on the higher of the two. Performance scores must reflect each SNF's relative ranking, and they must result in higher payments for higher performers. Providers in the lowest 40 percent of the ranking must receive payment lower than they otherwise would have had the VBP program not been implemented.

To meet these requirements, CMS designed separate improvement and achievement scores, with a facility's total performance score equaling the higher of the two. The improvement score awards points if a SNF's readmission rate during the performance period is lower

**TABLE
4-1****Baseline and performance periods for SNF VBP program payment adjustments**

Program year	Payment year	Baseline period	Performance period
Year 1	FY 2019	CY 2015	CY 2017
Year 2	FY 2020	FY 2016	FY 2018
Year 3	FY 2021	FY 2017	FY 2019

Note: SNF (skilled nursing facility), VBP (value-based purchasing), FY (fiscal year), CY (calendar year). The VBP program began affecting SNF payment in FY 2019.

than its rate during a baseline period, with more points awarded for larger improvement up to a maximum of 90 points. The achievement score awards points based on how much better a facility's performance is relative to a threshold (set at the 25th percentile, the lowest quartile of performance) of the distribution of readmission rates during the baseline period, referred to as the "achievement threshold." A provider whose readmission rate is below the 25th percentile receives no achievement points. The maximum for reaching the achievement benchmark is 100 points.

To convert performance into an incentive payment, CMS uses an S-shaped (logistic) exchange function to translate total performance scores into a multiplier that is applied to payments. A multiplier less than 1.0 reduces payments for lower performing SNFs and a multiplier greater than 1.0 increases payments for higher performing SNFs. CMS stated that it selected this functional form over others to maximize the number of SNFs receiving a positive adjustment while fulfilling the statutory requirement that SNFs in the bottom 40th percentiles have their payments lowered by the adjustment (Centers for Medicare & Medicaid Services 2018a). CMS noted that the functional form would not yield the largest adjustment for the best performers, but the agency thought it was more important to have more SNFs receive a positive payment adjustment.

The baseline and performance periods are one year, with the baseline period preceding the performance period by two years (Table 4-1). For example, for payments in fiscal year 2019, the baseline and performance periods were calendar years 2015 and 2017, respectively, which means that a SNF's performance in 2017 relative to 2015 influenced its Medicare payments in 2019. As required by statute, CMS publishes the achievement threshold

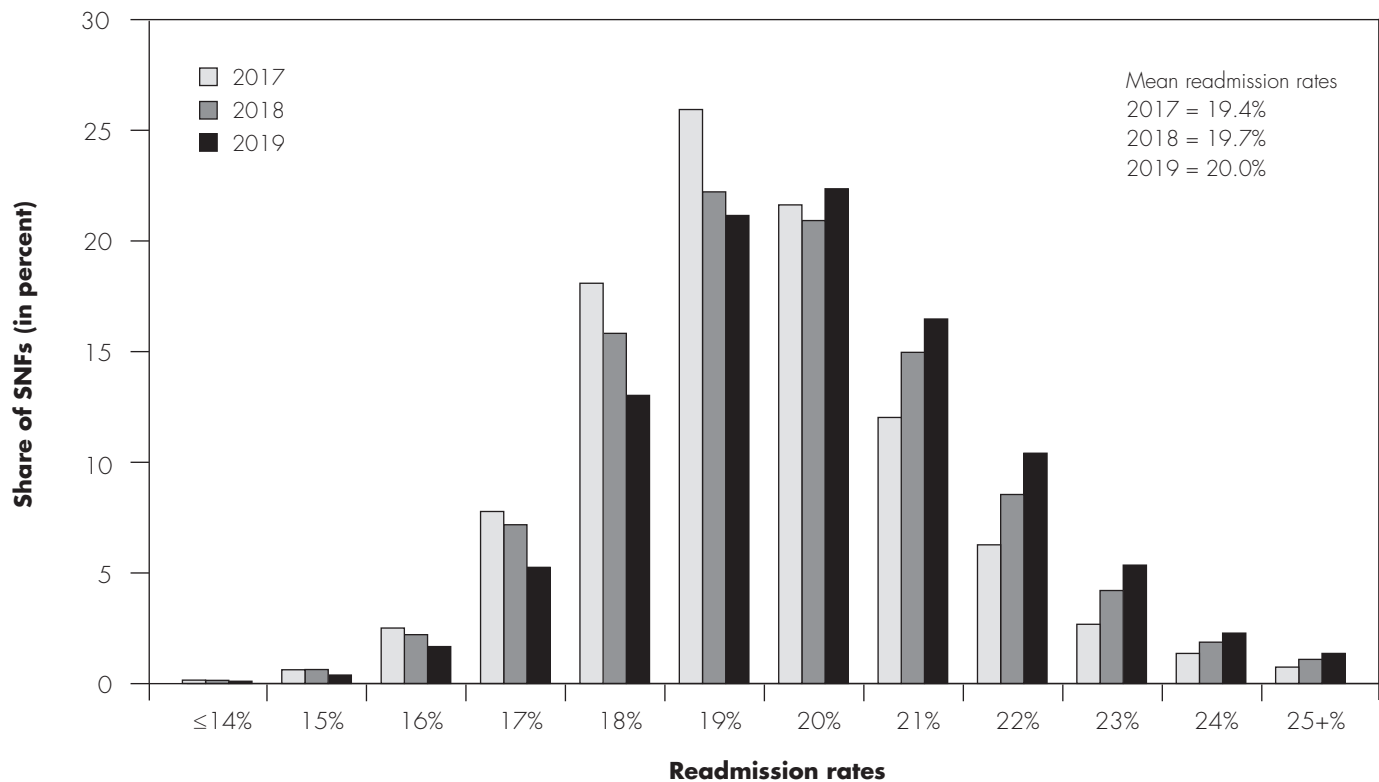
and benchmark standards 60 days before the start of the performance period for each payment year. For example, the achievement threshold and benchmark for payments in fiscal year 2021 were published in August 2018. (Note that CMS transitioned from calendar year to fiscal year periods beginning with fiscal year 2020 payment adjustments.)

If a provider has fewer than 25 stays in the baseline period, an improvement score is not calculated for it. If that same provider has at least 25 stays in the performance period, its performance score will be based on achievement. If a provider has fewer than 25 stays in the performance period, neither an improvement score nor an achievement score is calculated. The provider is assigned an incentive multiplier of 1.0 so that its payments are unaffected by the program.

Funding the value-based purchasing program

As required by statute, incentive payments are financed by an across-the-board 2 percent reduction to the payment rate. The statute also requires that total incentive payments equal between 50 percent and 70 percent of the total reduction, with the program retaining the remainder as savings. CMS opted to pay out 60 percent of the withheld amounts, retaining 40 percent as savings. The lowest performing facilities will earn back almost none of the withheld amount, while the higher performers can earn incentive payments that, on net, increase their payments.

Before the beginning of each fiscal year, payment rates are increased by the annual update and then adjusted to reflect a combination of the 2 percent withhold and each facility's incentive payment percentage. This percentage is applied to each claim during the fiscal year such that payments are lowered for SNFs with poorer performance and increased for SNFs with better performance.

**FIGURE
4-1****Readmissions varied in each performance period of the SNF VBP program**

Note: SNF (skilled nursing facility), VBP (value-based purchasing). Calendar year 2017 is the performance period for payment adjustments that affected payments for fiscal year 2019 (the first year of the program); fiscal year 2018 is the performance period for fiscal year 2020 (the second year of the program); fiscal year 2019 is the performance period for fiscal year 2021 (the third year of the program). The analysis excludes SNFs from any year in which they had fewer than 25 stays.

Source: MedPAC analysis of CMS SNF value-based purchasing data.

Impact of the coronavirus pandemic on the SNF VBP program

In the fiscal year 2019 final rule for SNF payments, CMS adopted an “extraordinary circumstances exception policy” to provide relief to providers facing extreme and uncontrollable circumstances. On March 20, 2020, CMS implemented this policy and announced that it would exclude qualifying claims submitted between January 1 and June 30, 2020, from calculating the VBP adjustments for fiscal year 2022 payments (Centers for Medicare & Medicaid Services 2020c). In September 2020, CMS announced that the agency would calculate measure results using data from the second to fourth quarter of 2019 and third quarter of 2020 (excluding the first and

second quarters of 2020) for calculating fiscal year 2022 payments (Centers for Medicare & Medicaid Services 2020b). In April 2021, CMS proposed to suppress the readmission measure for the FY 2022 SNF VBP program year because circumstances caused by the pandemic have affected the measure and the resulting performance scores significantly. To maintain compliance with the existing payback percentage policy in statute, they proposed to apply the same payment adjustment to all eligible SNFs. This adjustment would reflect the 2 percent withhold net of the program’s 40 percent retained as savings, but would not incorporate any adjustment for performance (Centers for Medicare & Medicaid Services 2021).

**TABLE
4-2****Under the VBP program, payments to the majority of SNFs were lowered****Share of SNFs earning an adjustment to payments**

Payment year	Relatively large reduction	Relatively small reduction	Essentially no change	Relatively small increase	Relatively large increase
FY 2019	49%	18%	12%	14%	7%
FY 2020	62	12	6	5	14
FY 2021	56	14	9	9	13

Note: VBP (value-based purchasing), SNF (skilled nursing facility), FY (fiscal year). The table shows the share of SNFs that experienced changes in payments relative to if there were no program. The analysis excludes SNFs with less than 25 stays a year (held harmless). A “relatively large reduction” is defined as a reduction equal to or greater than 1.5 percent. A “relatively small reduction” is defined as a reduction between 0.5 percent and 1.49 percent. “Essentially no change” is defined as an adjustment between a 0.49 percent reduction and 0.49 percent increase. A “relatively small increase” is defined as an increase between 0.5 percent and 1.49 percent. A “relatively large increase” is defined as an increase equal to or greater than 1.5 percent. FY 2019 was the first year that the VBP program affected payments; FY 2020 was the second year of the program; FY 2021 was the third year of the program. In FY 2020 and FY 2021, the total percentage of SNFs is greater than 100 due to rounding.

Source: MedPAC analysis of SNF VBP program data from CMS.

Results of the SNF VBP program

Each year, about three-quarters of providers had their Medicare payments reduced by the program (fiscal years 2019, 2020, 2021), though the size of the adjustments varied from year to year. In each year, more SNFs had their performance based on achievement rather than on improvement from a baseline period. SNFs that are small, treated sicker beneficiaries, or treated higher shares of fully dual-eligible beneficiaries (defined as beneficiaries with full Medicaid benefits for least one month during the year) had worse performance than other SNFs. These results suggest that the program would be improved with a higher minimum stay count and an adjustment for social risk factors.

Readmission rates for the performance periods

Between 2017 (the performance period for payments in fiscal year 2019) and 2019 (the performance period for payments in fiscal year 2021), the mean readmission rates increased (worsened) slightly from 19.4 percent to 20.0 percent. The readmission rates and the amount of variation across providers indicate room for improvement and support using the readmission rate measure to gauge performance (Figure 4-1). Providers at the 90th percentile had readmission rates that averaged 27 percent higher than providers at the 10th percentile, while rates at the 75th percentile averaged 13 percent higher rates than the rates at the 25th percentile.

Payment adjustments under the SNF VBP program

Across the first three years of the SNF VBP program, the median VBP adjustments lowered payments by between 0.7 percent and 1.8 percent. Each year, about three-quarters of providers had their Medicare payments reduced by the program. The largest reward across the three program years ranged from 1.6 percent to 3.1 percent (net increase in payments). These results are partly explained by the statutory requirement that the program must lower payments for 40 percent of providers, as well as the scoring, and the modest size of the withhold used to fund the incentive payments (2 percent). Also, as more SNFs are penalized, then the rewards for the high performers are larger so that incentive pool of dollars to be distributed to providers is spent out.

To further examine performance under the VBP program, we categorized SNFs into five groups based on the relative size of their payment adjustment in each year (Table 4-2). Providers that were held harmless by the program because they did not have 25 stays were excluded from the analysis. The five groups consisted of SNFs with (1) a relatively large decrease to the payments (at least a 1.5 percent reduction); (2) a relatively small decrease (reduction between 0.5 percent and 1.49 percent); (3) an adjustment that was close to zero (changes between a 0.49 percent decrease percent and a 0.49 percent increase); (4) a relatively small increase (between 0.5 percent and 1.49 percent); and (5) a relatively large increase (1.5 percent or more).

**TABLE
4-3**

VBP program payment adjustments were based on achievement rather than improvement for the majority of SNFs

Payment year	Payments decreased under VBP program			Payments increased under VBP program	
	Performance score based on achievement score	Performance score based on improvement score	Achievement and improvement score = 0	Performance score based on achievement score	Performance score based on improvement score
FY 2019	43%	9%	21%	23%	4%
FY 2020	28	11	39	18	5
FY 2021	34	10	30	22	4

Note: VBP (value-based purchasing), SNF (skilled nursing facility), FY (fiscal year). Performance score is the higher of achievement or improvement. An achievement score of 0 means the SNF did not meet the threshold achievement set at the 25th percentile of performance. An improvement score of 0 means the SNF did not improve from the baseline period. Fiscal year 2019 was the first year the VBP program affected payments; fiscal year 2020 was the second year of the program; FY 2021 was the third year of the program. In FY 2020, the total percentage of SNFs is greater than 100 percent due to rounding. The analysis excludes SNFs with fewer than 25 stays a year (held harmless).

Source: MedPAC analysis of SNF VBP program data from CMS.

Across the three years of the program, between 49 percent and 62 percent of providers experienced relatively large reductions to their payments. Another 12 percent to 18 percent experienced relatively small reductions. Less than a quarter of providers (between 19 percent and 22 percent) had their payments increased as a result of the program, and payments remained about the same for a minority (between 6 percent and 12 percent) of SNFs.

Pathway to performance

According to the scoring methodology adopted for the program, providers earned achievement points by achieving at least a minimum threshold (the 25th percentile in the baseline period) or by improving compared with a baseline period, with the performance score reflecting the higher of the two scores. The maximum points awarded for achievement was higher than for improvement (100 points versus 90 points). In each year of the program, many more SNFs had their performance score based on achievement rather than on improvement (Table 4-3). Apart from the SNFs that were held harmless by the program in fiscal years 2020 and 2021 due to insufficient volume, a sizable share of SNFs (ranging from 21 percent in fiscal year 2019 to 39 percent in fiscal year 2020) earned no points—their readmission rates were below the threshold (so they earned no achievement points) and they did not improve from the baseline year (so they earned no improvement points).

Consistency in provider payment adjustments across years

There was broad consistency in whether a SNF received a reward or penalty across the three years of the program. Each year, about three-quarters of SNFs received a payment reduction, and almost half received a payment reduction every year. This consistency in part reflects the program's design—40 percent of SNFs receive penalties each year—and the scoring approach. The large share of providers that were penalized in any given year is also a result of performance: Many providers did not improve (in fact, the average readmission rate increased over time) or did not achieve the minimum performance. About one-quarter of SNFs earned the largest reduction in each of the three years. In contrast, about 18 percent of SNFs received payment adjustments that steadily increased over the three years, indicating better relative performance over time. However, given the amount of “noise” in the measure, these results might not reflect improved performance.

Although the majority of providers were penalized each year, the size of the payment adjustments varied from year to year. Only one-quarter of SNFs had adjustments that were similar in size each year, and almost all of those experienced relatively large reductions. About 12 percent of SNFs had performances that were sufficiently variable that their payment adjustments swung between penalties and rewards. This inconsistency may reflect a

**TABLE
4-4****SNF VBP program payment adjustments were inversely related to shares of fully dual-eligible beneficiaries****SNF share of fully dual-eligible beneficiaries by size of payment adjustment**

Year	Relatively large reduction	Relatively small reduction	Essentially no change	Relatively small increase	Relatively large increase
FY 2019	46%	46%	45%	41%	33%
FY 2020	44	43	42	41	36
FY 2021	43	43	42	41	38

Note: SNF (skilled nursing facility), VBP (value-based purchasing), FY (fiscal year). The analysis excludes SNFs with fewer than 25 stays a year (held harmless). A “relatively large reduction” is defined as a reduction equal to or greater than 1.5 percent. A “relatively small reduction” is defined as a reduction between 0.5 percent and 1.49 percent. “Essentially no change” is defined as an adjustment between a 0.49 percent reduction and 0.49 percent increase. A “relatively small increase” is defined as an increase between 0.5 percent and 1.49 percent. A “relatively large increase” is defined as an increase equal to or greater than 1.5 percent. FY 2019 was the first year that the value-based purchasing program affected payments; FY 2020 was the second year of the program; FY 2021 was the third year of the program.

Source: MedPAC analysis of SNF VBP program data from CMS.

minimum count that is too low—it includes too much “noise” (instead of “signal”) to reliably gauge a provider’s performance.

Payment adjustments by provider characteristics

To assess whether certain facility characteristics are associated with VBP performance, we examined the relationship between payment adjustments and average risk score for the patients treated, a facility’s average share of fully dual-eligible beneficiaries treated, provider size (measured by total days), ownership, facility type, and location.

Facility’s average patient complexity Provider performance under the SNF VBP program was related to the comorbidities of the provider’s patient population. To measure patient complexity, we calculated the average risk score of the beneficiaries treated by each SNF, as measured by the hierarchical condition category score (where higher scores indicate more complexity). In the performance period that affected payments for fiscal year 2019, the average risk score for patients treated by providers with the largest reduction to payments was 10 percent higher than the average risk score for providers with the largest increases to payments. In the performance period that affected payments for fiscal year 2020, the average risk was 6 percent higher for SNFs with the largest reductions in payment; for fiscal year 2021 payments, it was 5 percent higher.

Average risk scores were inversely related to the size of the adjustment, with lower average risk scores for providers that experienced larger and positive payment adjustments and higher average risk scores for providers with larger and negative adjustments. Although this relationship could indicate less-than-perfect risk adjustment, the risk adjustment model is relatively complete (see the factors listed on p. 126) given the current state of administrative data. The relationship could also reflect differences in admitting practices across SNFs. However, one study of SNF readmission rates between 2009 and 2013 (before the VBP program) concluded that differences in rates were attributable to true differences, not selection (Rahman et al. 2016). That is, providers with higher risk scores had poorer performance.

Facility’s mix of patients at higher social risk To examine whether SNFs that treated higher shares of patients at social risk fared worse under the program, we examined the relationship between the share of a facility’s fully dual-eligible beneficiaries (as a proxy of income, a social risk factor) and the adjustments made to payments. We found that SNF VBP payment adjustments were negatively associated with a provider’s share of fully dual-eligible beneficiaries (Table 4-4). Providers with relatively large net increases to their payments (rewards) had a lower average share of fully dual-eligible beneficiaries compared with providers with relatively large net reductions (penalties). In fiscal year 2019, for providers with

**TABLE
4-5**

**SNF VBP program adjustments to payments in FY 2021
varied slightly for most provider groups**

Characteristic	National share of all SNFs	Adjustment to payments				
		Relatively large reduction	Relatively small reduction	Essentially no change	Relatively small increase	Relatively large increase
All	100%	56%	14%	9%	9%	13%
Free standing	97	56	14	9	9	13
Hospital based	3	48	14	9	8	21
Nonprofit	22	52	15	9	10	14
For profit	71	57	14	9	8	12
Government	7	55	14	9	9	13
Urban	76	57	13	8	8	13
Rural	24	52	16	9	10	12
Frontier	<1	42	11	24	7	16

Note: SNF (skilled nursing facility), VBP (value-based purchasing), FY (fiscal year). Table shows the share of SNFs that experienced changes in payments relative to no program within each provider group (by percentage in respective row). FY 2021 was the third year of the VBP program. The analysis excludes SNFs with less than 25 stays a year (held harmless). "Relatively large reduction" is defined as a reduction equal to or greater than 1.5 percent. A "relatively small reduction" is between 0.5 percent and 1.49 percent. "Essentially unchanged" is an adjustment between a 0.49 percent reduction and 0.49 percent increase. A "relatively small increase" is between 0.5 percent and 1.49 percent. A "relatively large increase" is equal to or greater than 1.5 percent. Totals may not sum to 100 due to rounding.

Source: MedPAC analysis of SNF VBP program data from CMS.

relatively large increases to their payments, 33 percent of their beneficiaries were fully dual-eligible compared with 46 percent of beneficiaries for providers with relatively large reductions to their payments. There were slightly smaller differences between the two groups in fiscal years 2020 and 2021.

Other researchers analyzing first-year results of the SNF VBP program found that SNFs serving vulnerable groups (defined by race/ethnicity categories and high or low Medicaid enrollment) were less represented among facilities in the top quintile of SNF VBP performance, compared with facilities overall (Hefe et al. 2019). Another study found that the probability of a SNF receiving a penalty was related to its location in a low-income ZIP code (Qi et al. 2020). These results lend support to payment adjustments that consider the social risk factors of a provider's mix of patients. Otherwise, providers could have an incentive to avoid admitting beneficiaries with high social risk factors.

Provider size Payment adjustments were also related to the size of the provider. Providers that had relatively large increases in their payment adjustments in fiscal year 2021 had 16 percent more total days during the performance period than providers that had relatively large reductions in their payment adjustments (size differences were similar for adjustments to payments in fiscal years 2020 and 2019). Larger providers are more likely to have the resources to devote to care management strategies aimed at lowering readmissions because larger facilities on average have higher Medicare margins (Medicare Payment Advisory Commission 2021). They also may have admission strategies aimed at short-term rehabilitation patients who may be less likely be readmitted to a hospital.

Facility type, ownership, and location We report the results for adjustments to payments in fiscal year 2021, but the results were similar for adjustments in the other two years (Table 4-5). By facility type, a larger share of hospital-based SNFs (21 percent) received relatively large payment increases compared with the share of all SNFs (13 percent). On average, hospital-based SNFs have lower

readmission rates due to their higher staffing levels and physician presence as well as more timely lab results for patients. The differences by ownership were small except that, compared with all SNFs, nonprofit providers were less likely to receive large reductions to payments. There were not large differences in payment adjustments by location (urban versus rural), except for frontier providers, which were more likely to have received large payment increases and less likely to have received large payment reductions. And while certain provider characteristics were associated with reductions or increases, there was wide variation within each group. For example, although a disproportionate share of hospital-based providers received relatively large increases in payments, the majority had their payments lowered, just like other providers.

States varied considerably in their shares of SNFs whose payments increased and decreased under the program. Some states, such as Hawaii and Washington, had high shares of SNFs with good performance. Other states, such as Louisiana and Mississippi, had high shares of SNFs with poor performance.

To examine the relationship between the size of the incentive payments and various provider characteristics simultaneously, we conducted linear regression analysis that included the following predictors: the average risk score of the beneficiaries treated in the facility (a measure of patient complexity); case-mix-adjusted nurse staff hours per resident per day (registered nurses (RNs) and, in separate analyses, a sum of registered nurses, licensed practical nurses (LPNs), and aides); survey inspection score (separate analyses included and excluded the inspection scores); share of fully dual-eligible beneficiaries; total facility days; occupancy rates; location (rural or urban); facility type; ownership; and share of racial and ethnic minority beneficiaries. In some instances, these results differ from the descriptive statistics because, after controlling for various provider characteristics, some factors (such as ownership) were not statistically significant.

Of the relationships that were statistically significant, we found that incentive payments were inversely related to risk scores and shares of fully dual-eligible beneficiaries. That is, incentive payments declined as risk scores and shares of fully dual-eligible beneficiaries increased. The fact that payment adjustments are systemically connected to social risk supports accounting for the social risk factors of a provider's patient population. Because patients at higher social risk are also more likely to be

medically complex, accounting for social risk is likely to help counteract the disadvantages SNFs that treat medically complex patients may have in achieving good outcomes (even after adjusting measure results for clinical factors). We also found that incentive payments were higher for SNFs that were hospital-based, had higher occupancy rates, and were larger. The results were similar for the models that included only RN staffing and all nurse staffing (RN, LPN, and aides) and for models that excluded the survey inspection score. Across the three years, we did not find consistent relationships between payment adjustments and ownership, staffing, or location.

Our regression results are broadly consistent with two studies, even though their methods and the factors they considered differed. A study of year 1 results analyzed the odds of being penalized and found that SNFs with higher shares of frail patients (a measure of patient complexity), SNFs located in low-income ZIP codes (an indicator that their patients would tend to have high social risk factors), and SNFs with lower 5-star quality ratings were more likely to be penalized, while hospital-based providers were less likely to be penalized (Qi et al. 2020). Another study of the first two years of the program found that larger SNFs, SNFs in rural locations, and SNFs with higher RN staffing levels were more likely to receive rewards compared with other SNFs (Daras et al. 2021). This study did not examine whether performance was related to a SNF's share of patients at high social risk.

Our work and these two studies suggest that performance is related to patient complexity, social risk factors, provider size, and provider type. The findings for ownership, rural location, and total staffing levels were mixed and may reflect differences in the models (predicting a penalty or a reward compared with the size of a reward) and the factors included in them.

Shortcomings of the SNF VBP design

Our assessment of the SNF VBP program revealed several fundamental design flaws. First, performance is assessed using a single outcome measure, even though quality is multidimensional. Second, the minimum stay counts for a provider to be included in the program do not ensure that the measures are reliable for low-volume providers. Third, the performance scoring includes “cliffs”—that is, preset numeric thresholds—so that some providers may not be encouraged to improve. Fourth, the design does not consider the social risk factors of a SNF's patient population, which disadvantage some SNFs.

Finally, the design retains a portion of the incentive pool as savings, which may dampen SNFs' motivation to improve. Three of these design features (the single measure, the performance scoring, and the lack of an approach to account for social risk factors) do not meet the Commission's principles for quality measurement (Medicare Payment Advisory Commission 2018).

Performance is assessed with a single, flawed measure

The Commission supports quality payment programs that include a small set of measures that gauge clinical outcomes, patient experience, and value (Medicare Payment Advisory Commission 2018). While the recently enacted legislation authorizes the Secretary to expand the measure set by up to 10 measures, we encourage the agency to focus on a smaller set of domains to focus provider improvement activities. An expanded measure set would help overcome two potential problems with a single measure. First, a sole metric may encourage providers to disproportionately focus on that one dimension at the expense of other aspects of care (Eijkenaar et al. 2013, Konetzka et al. 2016). Second, a single measure is more likely to be statistically unreliable than a "composite" measure that gauges performance using multiple measures (Dimick et al. 2012, Krell et al. 2014, Scholle et al. 2008). Using multiple measures will strengthen the quality of the signal and reduces the noise of random variation, thereby improving reliability (Dimick et al. 2013).

The rate of hospital readmissions is a good measure of SNF quality. Hospital readmissions are disruptive to patients and caregivers and costly to the health care system. They also put patients at additional risk of hospital-acquired infections and complications. Readmissions are a major source of patient and family stress and can contribute substantially to loss of functional ability, particularly in older patients. Last, the measure captures many dimensions of clinical care. A provider with poor attention to medication management, fall prevention, infection control, skin integrity, and hydration would be expected to have high readmission rates.

However, the specification of the current measure has several flaws. First, the specification counts only readmissions that occur within 30 days of discharge from the hospital. By including only these readmissions, SNFs are not held accountable for their patients' readmissions that occur after this period, but patients can still be under their SNF's care (about one-third of SNF stays are longer

than 30 days). The definition could create incentives for SNFs to delay needed hospital care until after the 30th day to avoid including the readmission in its performance measure. The Commission supports a during-stay measure that holds a provider accountable for the entire SNF stay (Medicare Payment Advisory Commission 2015).

Second, the CMS hospitalization measure does not count SNF stays preceded by hospitalizations in inpatient rehabilitation facilities and long-term care hospitals, which account for about 6 percent of SNF admissions (Centers for Medicare & Medicaid Services 2016). A more complete measure of hospital events would also count observation stays because, from the beneficiary's perspective, observation stays may be indistinguishable from an inpatient admission.

Finally, for stays shorter than 30 days, the measure includes readmissions that occur while the beneficiary is in the SNF and those that occur after discharge, even though these measures point to very different problems. Readmissions that occur during the stay indicate shortcomings in the monitoring and detection of clinical conditions that, when left untreated, can worsen. Readmissions that occur after discharge from the SNF may reflect that the patient was not clinically ready to go to the next setting or home, or that the care coordination (including the education and training of beneficiaries and their caregivers) was inadequate, or some combination. The Commission supports a separate measure to gauge the safe transitions to the next setting for a set period of time.

Minimum count is too low to ensure reliable measures for low-volume providers

The minimum stay count CMS uses for the readmission measure may not be high enough to adequately distinguish performance across providers, especially small providers. In 2018, 10 percent of SNFs had 29 or fewer stays; one-quarter of SNFs had 55 or fewer stays. When measures are unreliable, the performance of one provider may appear to be different from another provider, when in fact the sampling error around the estimate is so large that their performances are not statistically different from each other. Especially when publicly reported and tied to payments, measures should accurately reflect performance, not random variation.

CMS based its minimum count (25 stays) on "the low end of 'moderate' agreement" between performance scores calculated for random split samples of SNF stays (the

correlation coefficient was 0.447) (Centers for Medicare & Medicaid Services 2018a, RTI International 2018). At this level of agreement, the two half-samples agreed less than half of the time. A commonly used standard of “good” reliability (0.7, where 70 percent of the variation is explained by differences in performance and 30 percent is attributed to random variation) was not reached until the minimum count was greater than 172 stays (RTI International 2018).

The Consolidated Appropriations Act, 2021, bars the Secretary from applying the SNF VBP program to facilities that do not meet the minimum case counts for each measure in the program. However, until CMS uses a higher reliability threshold, the minimum counts will continue to be too low to ensure reliable measure of low-volume providers.

One way to expand the number of SNFs meeting a more common reliability standard (0.7) would be to include multiple years in the performance period. More recent years could be weighted more heavily than earlier years. Or CMS could consider setting a minimum count below which multiple years of data would be pooled. However, using a mix of performance periods depending on a provider’s size may create potential inequities across providers.

Performance scoring does not encourage all providers to improve

The performance scoring awards points for the higher of improvement or achievement. As such, a provider could improve but still be assessed as having poor performance. As required by statute, payments are lowered for the bottom 40 percent performers, which prevents the worst performers from receiving higher payments under the VBP program. The Commission prefers a simpler scoring approach that awards points based only on achievement.

The performance scoring in the SNF VBP design includes two additional features that may undermine incentives for a provider to improve. First, the scoring includes thresholds that limit whether a SNF will earn a quality bonus: Providers in the bottom 25th percentile in achievement are awarded no points and SNFs in the bottom 40 percent of total points must have their payments lowered relative to what they would receive without the VBP program. Assuming that improvements require some investments (for example, in staffing, training, and other infrastructure), the worst performers may not have the resources to improve. Second, the

scoring does not differentiate among SNFs at the high end of the performance continuum, with achievement and improvement points “maxing out” at the benchmarks (the average of the top 10th percentile). This scoring may dampen the incentive for the top performers to continue to improve.

A study of the impact of thresholds used in three Medicaid nursing home pay-for-performance programs (Colorado, Georgia, and Oklahoma) offers mixed evidence to support these concerns (Werner et al. 2016). It found that nursing homes that were the furthest below the thresholds had the largest improvements in performance, while performance declined for homes that were the furthest above the thresholds. The authors suggested that the poorest performing homes may have implemented low-cost approaches to reduce their readmissions, shifted resources toward areas of performance that were targeted by the program, or changed the coding of data used to calculate the performance measures.

Design does not account for social risk factors

In quality payment programs, the Commission contends that Medicare should account, as necessary, for differences in providers’ populations, including social risk factors. There is growing recognition that social risk factors (such as income, education, race and ethnicity, employment, disability, community resources, and social support) play a major role in health. The effects of social risk factors on quality results persist after the clinical complexity of patients (e.g., age, sex, comorbidities) is taken into account. Providers serving a high proportion of beneficiaries with social risk factors tended to perform worse on quality measures in part due to unmeasured differences in the patient population and in part due to the provider’s poor performance (Assistant Secretary for Planning and Evaluation 2016). Specifically, in its report to the Congress on social risk factors and performance under Medicare’s VBP programs, the Assistant Secretary for Planning and Evaluation reported that patients receiving care at a SNF with a high proportion of dually eligible, low-income, Black, or Hispanic beneficiaries or beneficiaries with disabilities were associated with an increased likelihood of readmission. Differences in the use of high-quality providers among beneficiaries of differing socioeconomic status and race is fairly well established (Angelelli et al. 2006, Grabowski and Castle 2004, Konetzka et al. 2015, Mor et al. 2004, Sharma et al. 2020). Further, if quality improvement requires financial investments and these providers have

fewer resources, VBP program and public reporting could exacerbate existing disparities among providers (Konetzka et al. 2016).

The Commission has supported using peer groups to account for differences in the social risk of provider populations. Although social risk factors could be included in the risk-adjustment method, doing so would mask disparities in performance across providers. Instead, providers would be stratified by social risk factor (such as the share of low-income patients) and then compared with other providers in their peer group to calculate the incentive payments. A provider could compare its unmasked, actual performance (the rates would have been adjusted for differences in patient age, sex, and comorbidities) with providers with similar social risk factors and with national averages. Consumers and other stakeholders (such as entities participating in alternative payment models and Medicare Advantage plans) could compare performances in selecting a SNF or establishing networks of preferred providers.

Design retains a portion of the incentive pool as program savings

The SNF VBP program retains a portion (40 percent) of the amounts withheld from payments as Medicare savings. The Commission does not support using value-based incentive programs to achieve program savings. Rather, the programs should be implemented to be budget neutral and all withheld amounts should be paid out as incentive payments. If the Congress wishes to lower the level of payments to SNFs, it has other vehicles to achieve that purpose, such as the annual update.

Retaining a portion of the withhold as savings effectively lowers the pool of incentive dollars to distribute as incentive payments. The relatively small size of the incentive payments (2 percent), further shrunk by the retained savings, may not be sufficiently large to motivate providers to improve their performance. Policymakers could consider a larger withhold as a stronger motivator.

Design of a SNF value incentive program

Relying on the Commission's principles for quality measurement and our previous work on redesigning Medicare quality incentive programs, we present a SNF VIP design that addresses the SNF VBP program flaws

(Table 4-6). We also describe illustrative modeling of the SNF VIP design.

The SNF VIP design has five elements. It:

- scores a small set of performance measures,
- incorporates strategies to ensure reliable measure results,
- establishes a system for distributing rewards with minimal cliff effects,
- accounts for differences in patients' social risk factors using a peer-grouping mechanism, and
- distributes the entire provider-funded pool of dollars.

Score a small set of performance measures

Consistent with the Commission's principles for quality measurement, Medicare quality programs should include a small set of population-based measures tied to outcomes, patient experience, and resource use. Where practical, the measures should align across all Medicare-accountable entities and providers. So that these measures are not unduly burdensome for providers and are less subject to recording inaccuracies, they should largely be calculated or administered by CMS, preferably based on already reported data, such as claims data. Providers could choose to use other granular process measures to manage their own quality improvement efforts, but those measures would not factor into Medicare payment.

To identify potential candidates for the SNF VIP, we reviewed the 11 measures included in Medicare's SNF Quality Reporting Program (QRP) measure set that have gone through CMS's measure development and testing process. Two measures (drug regimen review and functional assessment with development of a care plan) are process measures, which the Commission has not supported for use in quality incentive programs. Several measures—including change or attainment of mobility, skin integrity (pressure ulcers), and incidence of falls—are based on provider-reported patient assessment data that may not be accurate enough to include in payment incentive programs at this time. We avoided these measures in the illustrative SNF VIP modeling because the Commission found that the consistency of facilities' recording of functional assessment information raised questions about using such information for quality reporting or payment. Research also suggests that nursing

**TABLE
4-6**

The proposed SNF VIP design addresses flaws in the current SNF VBP program

Flaw in the current SNF VBP program

Assesses performance using a single, flawed outcome measure: As required by statute, the SNF VBP program scores a single readmissions measure, even though quality is multidimensional.

Does not ensure reliable measure results for low-volume providers: The minimum stay count CMS uses for the readmission measure in the SNF VBP program is not sufficiently high to adequately differentiate performances across providers, especially for small providers.

Uses performance scoring that does not encourage all providers to improve: The SNF VBP performance scoring awards points for the higher of improvement or achievement. As required by statute, payments are lowered for providers in the bottom 40 percent of rankings, and rewards “top out” for the best performers.

Does not account for social risk factors: The SNF VBP design does not include an approach that considers the social risk factors of the beneficiaries treated by a SNF, which can disadvantage SNFs with high shares of patients at social risk.

Retains a portion of the incentive pool: As required by statute, the design retains a portion of the incentive pool (based on 2 percent withhold) as savings.

Proposed SNF VIP

Scores a small set of performance measures: The SNF VIP adjusts provider payments based on performance on a small set of measures tied to outcomes. The measure set should be revised as other measures (e.g., patient experience) become available.

Incorporates strategies to ensure reliable measure results: The SNF VIP uses a higher reliability standard for determining the minimum number of stays required for a SNF to be included in scoring. The SNF VIP could also use other techniques to include low-volume providers in the program, such as scoring multiple years of performance.

Establishes a system for distributing rewards with minimal cliff effects: The SNF VIP uses a simpler scoring approach that awards points for every performance achieved with minimal use of thresholds, or cliffs. The continuous performance scale results in every SNF having an incentive to improve.

Accounts for differences in patients’ social risk factors using a peer-grouping mechanism: The SNF VIP stratifies providers into peer groups based on the social risk factors of their patient population. Payment adjustments are based on performance relative to peers in the group.

Distributes the entire provider-funded pool of dollars: The SNF VIP distributes all withheld funds back to providers based on their performance. Though not explicitly designed to achieve program savings, improved provider performance (e.g., fewer readmissions) could lower program spending.

Note: SNF (skilled nursing facility), VIP (value incentive program), VBP (value-based purchasing).

homes underreport rates of pressure ulcers and falls (IntegraMed Analytics 2020, Sanghavi et al. 2020). Still, maintaining and improving these outcomes are critically important to patients, so it is desirable to improve the reporting of assessment data so that these outcomes can be adequately assessed.

In our June 2019 report to the Congress, we discussed strategies to improve the accuracy of the provider-reported assessments, including CMS monitoring of provider-reported function data to detect unusual patterns and the implementation of an audit program to follow up on aberrant results (Medicare Payment Advisory Commission 2019a). As a part of the monitoring, CMS could assess improvement in function across providers (i.e., compare

discharge assessment results from one PAC provider with results from a subsequent admission to another PAC provider). As an alternative to SNF-reported assessments, Medicare could require hospital discharge planners to conduct assessments of a patient’s function at discharge. These assessments would be divorced from any payment incentives that could lead SNFs to record functional status in ways that boost payments, and the assessments would generally provide an independent point of comparison.⁴ Although all SNF patients have a prior hospital stay, this is less true for patients admitted to other PAC settings. Therefore, this option would be less effective for ensuring the accuracy of assessments for a PAC value incentive program.

Another strategy would be to gather patient-reported function data. Currently there are no patient-reported outcomes collected in PAC settings or included in the QRP. Given the high level of comorbidities and cognitive impairments among PAC patients, developing patient-reported information would require the use of proxies. In any case, it would take substantial investments in time and effort before such data could be used reliably in the SNF VIP. The Congress has recently required and provided funding to CMS to implement a validation of quality data used in the expanded SNF VBP program that may be similar to the validation of inpatient quality data (i.e., chart review of some measure results for a sample of hospitals).

Three QRP measures are claims based (and risk adjusted): potentially preventable readmissions, Medicare spending per beneficiary, and discharge to the community. However, the measures CMS developed are not uniform across PAC settings. Given the Commission's goal of eventually being able to compare outcomes across settings, we developed measure specifications that, while based on the CMS measures, are uniformly defined and risk adjusted across PAC settings. These measures serve as prototypes of those Medicare could use in the SNF VIP.

We also reviewed SNF measures that are publicly reported on the Care Compare (formerly Nursing Home Compare) website for potential inclusion in our SNF VIP model's measure set. CMS calculates and reports the share of beneficiaries who had an outpatient emergency department visit during their stay, a claims-based measure. This is a promising measure because emergency department visits can be disruptive for patients, and many of these visits are preventable with appropriate care during the SNF stay. However, the measure is not yet developed for use across the four PAC settings. Care Compare also reports process measures, facility capacity statistics, staffing measures, and regulatory inspection results. While many of these measures are important for public reporting, they are not outcomes measures that the Commission asserts should be tied to payment. Medicare should continue to use other quality measures and compliance standards to monitor SNF performance and publicly report this information. Public reporting of provider and national performances should encourage providers to improve (see text box on public reporting of quality results).

In its discussion of an expanded measure set, the Consolidated Appropriations Act, 2021, listed examples of the domains that might be added, including functional status, patient safety, care coordination, and patient

experience. However, until assessment information reported by providers is validated, the Commission does not support using this information to tie payments to reported performance. Two of the measures included in the proposed VIP design (successful discharge to community and Medicare spending per beneficiary) capture care coordination. In addition, the Commission urges CMS to finalize measures of patient experience that could be incorporated into a future VIP.

Our illustrative SNF VIP modeling includes two outcome measures and a measure of resource use: all-condition hospitalizations within stay, successful discharge to the community, and Medicare spending per beneficiary (MSPB). These measures are important to beneficiaries, the Medicare program, and entities such as accountable care organizations (ACOs) and health systems interested in setting up networks of high-performing providers. Anticipating a value incentive program for all PAC providers, we developed measures that use uniform definitions and risk adjustment across the PAC settings. All three measures have considerable variation in performance across SNFs, signifying opportunities for providers to improve the care they provide and the ability to differentiate performance among providers. The measures can also help CMS identify poor performers that need additional technical assistance.

We realize that the three measures in our illustrative model are related and represent a narrow view of quality; for example, they all, in some way, capture hospitalizations. These measures are not intended to be a definitive list of the measures to use in the SNF VIP; instead, CMS should develop the measure set through a public review and input process. The SNF VIP measure set should evolve as the accuracy of patient assessment data improves and other data (such as clinical data from electronic health records, infection rates, and patient experience survey results) become available.⁵ As quality measures improve, the measure set should continue to include only a small set of measures that are not burdensome for providers to collect.

All-condition hospitalizations within stay

Hospitalizations (admissions and readmissions) are outcomes that are disruptive to patients and caregivers, are costly to the health care system, and put patients at additional risk of hospital-acquired infections and complications. Hospitalizations are also a major source of patient and family stress and may contribute substantially to the loss of function, particularly in older patients. CMS has developed uniform post-stay readmission measures

Public reporting of quality information should complement the skilled nursing facility value incentive program

CMS regularly calculates nursing home star ratings to represent the quality of services provided by nursing homes. On the Care Compare website (formerly Nursing Home Compare), CMS posts an overall rating for each nursing home consisting of 1 to 5 stars (5 is the highest rating), as well as individual star ratings for the domains of quality of resident care, staffing, and health inspections. Consumers (i.e., beneficiaries, family members, other providers) have the option to view more information about a nursing home's quality of resident care, including 33 quality measure results, such as outcome measures (e.g., risk-adjusted hospitalization rates); process measures (e.g., flu vaccination rate); and functional status measures (e.g., change in residents' mobility). Consumers can also view facility capacity statistics (e.g., the average number of residents per day and staffing hours per resident day) and regulatory inspection results (e.g., health and fire safety code violations and patient complaints).

There are three main objectives for public reporting of Medicare quality information. First, public reporting can increase the accountability of health care organizations and providers by offering more information to patients and payers, which can help them make more informed purchasing and treatment decisions. Second, public reporting can stimulate improvements in quality of care through economic competition (reputation and increased market share).

Third, public reporting establishes standards so that apples-to-apples comparisons can be made (Marshall et al. 2003). Researchers have identified and tested best practices for displaying comparative information to best meet the objectives of public reporting. Many such practices are incorporated in the nursing home star ratings. The ratings report a small number of measures that are integrated into an overall star rating. More detailed information is readily accessible (Agency for Healthcare Quality and Research 2020b, Aligning Forces for Quality 2009).

Concurrent with the direct financial incentives of the skilled nursing facility (SNF) value incentive program (VIP), CMS should continue to provide a vehicle for publicly reporting quality information. While Medicare should tie performance-based payment to a small set of measures, public reporting should include additional measures that inform consumer decision-making and hold SNFs accountable for the care they provide. The Commission maintains that the SNF VIP measure results should be publicly reported on Care Compare. As in the current Care Compare, consumers should continue to be able to see each SNF's measure results and, for context, how those results compare with the national average or state average. CMS could also add the average performance of each SNF's peer group (SNFs treating patients with similar social risk) to Care Compare. ■

for PAC providers, but the so-called uniform during-stay measures vary across settings.⁶ The during-stay SNF measure counts readmissions during the first 30 days after discharge from the hospital. Because some SNF stays do not last 30 days while other stays are longer, this measure does not hold SNFs accountable for all of the hospitalizations that occur during the SNF stay and, for short SNF stays, can include readmissions that did not occur during the stay but rather after the patient was discharged. Additionally, none of the setting-specific hospitalization measures consider returning to the hospital

for an observation stay, which from the beneficiary's perspective can appear to be an admission.

For our illustrative SNF VIP modeling, we calculated risk-adjusted hospitalization within-stay rates for SNF providers, using three years of claims data (2015 to 2017). This outcome measure holds SNFs accountable for their patient outcomes and care they provide “within their walls.” In addition to counting readmissions, the measure includes returns to the hospital for outpatient

observation stays. The risk adjustment model includes the following information: the beneficiary's primary reason for treatment, severity of illness, comorbidities, age, sex, and original reason for Medicare entitlement; whether the beneficiary received dialysis in the preceding hospital stay or during the SNF stay; whether the beneficiary received ventilator care, or had severe wounds, bowel incontinence, or dysphasia during the SNF stay; and the length of the preceding hospital stay, the number of intensive care unit days in the most recent hospitalization, and the number of hospitalizations during the past year.

We found that the three-year median rate for risk-adjusted within-stay hospitalizations was 14 percent (lower is better). There was considerable variation in the measure across SNFs, with rates varying more than twofold. Variation in performance is an important feature of a measure. If variation across providers is limited, providers' performances cannot be differentiated. Furthermore, the variation suggests opportunities for providers to improve the quality of care they provide to patients.

Successful discharge to the community

Discharge to a community setting is an important health care outcome for many patients for whom the overall goals of post-acute care include optimizing functional status and returning home. However, SNFs should not discharge patients who are not medically ready to return to the community because doing so may result in hospital events. Unlike the hospitalizations-within-stay measure, successful discharge to community captures a patient's outcome after discharge from the SNF.

As a part of the Improving Medicare Post-Acute Care Transformation Act of 2014, CMS recently developed a risk-adjusted, claims-based successful discharge to community quality measure for each PAC setting.⁷ The measure defines successful discharge to the community from a PAC setting as having been discharged to the community and having no unplanned hospitalizations or mortality in the next 30 days.⁸ For this measure, *community* is defined as home/self-care, with or without home health services, and includes nursing home residents who return to the same facility. Discharges to hospice or resident stays with a hospice benefit in the 31-day postdischarge window are excluded from the calculation. The CMS measure excludes nursing home residents who return to the same facility.

For our illustrative modeling, we calculated risk-adjusted successful discharge to community measure results for

all SNFs using three years of claims data (2015 to 2017). The risk adjustment model included the following factors: the beneficiary's primary diagnosis and comorbidities, age, sex, and original reason for entitlement; whether the beneficiary was on a ventilator or received dialysis in the preceding hospital stay where end-stage renal disease (ESRD) was not indicated; and the length of the preceding hospital stay and the number of hospital stays during the past year. Like the hospitalizations-within-stay measure, there is considerable variation across SNF providers (rates varied more than twofold). The three-year median rate was 43 percent for SNFs (higher is better).

Medicare spending per beneficiary

The MSPB-PAC is a provider-level measure of resource use that captures Part A and Part B Medicare spending during the PAC stay and the following 30 days for the patients they treat. Low MSPB-PAC is considered desirable. To keep its MSPB-PAC low, a provider has an incentive to furnish high-quality care (avoiding hospitalizations), make referrals for the necessary level and amount of subsequent care, ensure safe transitions, and discharge beneficiaries to high-quality PAC providers (e.g., home health agencies) with low hospitalization rates. The measure helps create incentives for providers not participating in broad delivery reforms (such as ACOs and bundled payments) to focus on an episode of care that begins with admission and extends for a period after discharge. For beneficiaries who are hospitalized and then use SNF services, the measure overlaps with the MSPB measure for hospitals (which holds hospitals accountable for spending during the hospital stay and 30 days after discharge). By having overlapping measures, SNFs and hospitals have the same incentive to keep resource use low. Paired with outcome measures, the MSPB-PAC measure could also detect stinting on care by identifying providers with consistently low spending per beneficiary and low quality.

Building on CMS's specification for all PAC providers, we developed a risk-adjusted measure of spending that is adjusted for differences in the mix of patients treated by a provider. Using three years of claims data (2015 to 2017), we calculated the risk-adjusted MSPB for each SNF relative to the setting average. Measures were risk adjusted using the following patient and episode characteristics: the beneficiary's broad clinical condition (such as orthopedic surgery or a medical condition) and comorbidities, age, and original disability status; whether the beneficiary had

ESRD, was in a long-term care institution, or was enrolled in hospice; the timing of the SNF stay (e.g., whether it immediately followed a prior hospital stay or followed a prior PAC stay), and the length of stay in an intensive care or coronary care unit during a prior hospital stay.

Of the total episode spending, 56 percent was for the initial SNF stay, another 21 percent was for other post-acute care (such as home health care), 13 percent was for hospital readmissions, 4 percent was for physician and other fee schedule services, and the remainder was for ancillary and other services (such as durable medical equipment and hospice). As with the other two measures, we found almost twofold variation in performance across SNFs.

Finalize measures of patient experience

According to the Commission's principles for quality measurement, Medicare's quality payment programs should include measures of patient experience. Across the health care system, research finds that improving patient experience translates to better health. Patients who feel heard and have positive care experiences report better health outcomes and are more likely to adhere to treatment plans (Agency for Healthcare Quality and Research 2020a).

The Agency for Healthcare Research and Quality (AHRQ) and CMS have developed Consumer Assessment of Healthcare Providers and Systems® (CAHPS®) surveys to capture patient experience with health care services at multiple levels of the delivery system, including hospitals, clinicians, and health plans.⁹ CAHPS surveys cover topics that are important to patients and focus on aspects of quality that patients are best qualified to assess, such as the communication skills of providers and ease of access to health care services. Systematic use of the CAHPS surveys, including administration and analysis of results, allows for apples-to-apples comparisons across providers.

AHRQ has developed three nursing home CAHPS survey instruments for long-stay residents, short-stay patients who are discharged, and family members. These surveys include roughly 50 questions about various aspects of care and experience during a stay, including safety, cleanliness, timeliness of nursing staff, and overall rating of the facility. CMS has not implemented any of the surveys in the skilled nursing facility QRP. Agency officials told us that provider burden, difficulty collecting reliable results from more complex PAC patients (requiring the use of patient proxies to gather the information), and internal

resource constraints have stalled the adoption of CAHPS requirements across SNFs.

The American Health Care Association, an association of long-term care and post-acute care providers, has developed a core set of customer satisfaction questions called the CoreQ, which has been independently tested as a valid and reliable measure of customer satisfaction. The survey for short-stay residents includes four items, all based on a five-point scale overall (Poor, Average, Good, Very Good, or Excellent): (1) If recommending this facility to your friends and family, how would you rate it?; (2) Overall, how would you rate the staff?; (3) How would you rate the care you received?; and (4) How would you rate how well your discharge needs were met? (CoreQ 2019). The survey results are used to calculate a short-stay discharge measure as the share of individuals discharged in a six-month time period from a SNF within 100 days of admission who were satisfied with their care. CMS has previously considered incorporating the measure into the SNF Quality Reporting Program (Centers for Medicare & Medicaid Services 2020a).

To better measure and improve patient-centered care, CMS should finalize measures of patient experience, using either the CAHPS or CoreQ surveys, and require SNFs to collect this information from beneficiaries or their proxies. Measures of SNF patient experience could eventually be used in a SNF VIP. To incorporate such measures, CMS would need to finalize a survey and develop patient experience measures based on survey responses, adjusted for respondent characteristics (e.g., sex, age, education, whether a proxy completed the survey). CMS would also need to implement a process for third-party survey vendors to collect survey results from patients (or their proxies). Collecting patient experience information would add burden to both SNFs and CMS, but the Commission contends that these are valuable measures to assess a SNF's quality of care.

Incorporate strategies to ensure reliable measure results

For many small SNFs with low patient volume, establishing reliable measure results is problematic.¹⁰ Low-volume providers likely do not have enough observations to ensure that the measure detects signal (performance) rather than noise (random variation). Unreliable measure results can lead to drawing the wrong conclusions about a provider's performance; a low-volume provider can appear to have unusually good or

poor performance, when in fact its performance is not statistically significantly different from the average. Low-volume providers are also more likely to have performance that varies from year to year, which could result in a provider incurring penalties one year and receiving a reward the next. Policymakers must consider the tradeoff between achieving reliable results and driving quality improvement in as many providers as possible.

In our illustrative modeling of the SNF VIP, we used a minimum case count that resulted in an acceptable reliability for each measure (i.e., 0.7, where 70 percent of the variance in a measure's results was attributable to actual performance differences and providers can be differentiated).¹¹ This level of reliability required a minimum of 60 stays (for each measure).

Setting a minimum case count to ensure reliability inevitably means excluding some providers from the quality measurement program. One way to include as many providers as possible is to pool data across years, allowing a performance measure to be calculated for many small providers that would otherwise be excluded.¹² Such pooling is consistent with other VBP designs and measures. For example, the Hospital Readmissions Reduction Program uses three years of performance data to calculate readmission results. In our illustrative SNF VIP modeling, we chose to pool three years of claims data to increase the number of observations for each provider. Blending performance across years also encourages sustained improvements; providers that maintain better performance will have years of good performance and comprise a larger share of the performance period that is being assessed. However, pooling data across years could dampen a provider's drive to continually improve results because recent results are blended with older results and therefore take longer to be fully recognized in the provider's payments. To counter this disincentive, policymakers could weight the years differently, giving more emphasis to the more recent years. Policymakers could also opt to pool data across years only for low-volume providers, while scoring just the most recent year's performance for providers that meet a minimum count in a single year.

Establish a system for distributing rewards with minimal cliff effects

Consistent with the Commission's principles, the SNF VIP is designed to reward or penalize a provider using a continuous, prospectively set scale for each measure. The performance scale for each measure is set nationally because Medicare is a national program, so the same

performance scale should be applied to all SNFs. The performance-to-points scale for each measure is set based on the continuous distributions of all SNF scores. Unlike the current program that awards points for the higher of improvement or achievement scores, the SNF VIP scores only achievement. By recognizing every level of performance, providers are always better off improving quality to achieve a higher level of quality than not—thus negating the need to separately score improvement. As performance improves, the SNF VIP performance scale should be revised. The scale will be prospectively set so providers know how their performance on a measure translates to points before the payment year, which allows them to set their improvement goals and activities.

In establishing a system to distribute rewards, policymakers will need to consider whether a provider should meet some minimum performance standard before it earns performance points that could translate into a reward. One way to avoid potentially rewarding poor performance is to set the performance-to-points scale so that no points are assigned below a minimum threshold. Different input could go into determining the appropriate minimum threshold. A minimum threshold could be set based on clinical judgment where there is an applicable clinical standard. For example, there are clinical definitions of “controlled diabetes” that could be used to set a threshold for a measure gauging a provider's success at managing diabetes. However, for some outcome measures, there may be no clinical standards. For example, even with a goal to keep SNF patients out of the hospital, some SNF patients will need to be rehospitalized to receive appropriate care. For such measures, policymakers could use a relative minimum threshold; for example, the worst quartile of performers would not receive points.

Setting a minimum performance threshold would help meet beneficiaries' and the program's reasonable expectations that providers furnish some minimum level of quality. It would also prevent the worst-performing SNFs from earning performance points that could translate into a reward (or, more likely, a smaller penalty).

Although a minimum threshold would avoid potentially rewarding the poorest performers, there are several reasons not to include one in a scoring design. First, it would create a cliff, or numeric threshold, between providers whose performance falls just below and those just above the threshold. It may also dampen the incentive for some poor-performing SNFs to improve if the threshold performance seems unattainable. In addition, a minimum

**TABLE
4-7****Better performance on quality measures earns
more points under illustrative SNF VIP model**

Performance on measures			
Points	All-condition hospitalization rate (lower is better)	Medicare spending per beneficiary ratio (lower is better)	Successful discharge to the community rate (higher is better)
0	23%	1.4	23%
2	19	1.2	31
4	16	1.1	38
6	13	1.0	44
8	11	0.8	52
10	8	0.7	62

Note: SNF (skilled nursing facility), VIP (value incentive program). Each of the three measures in the SNF VIP modeling is continuously scored from 0 to 10 points; only a subset of points is displayed here. The performance-to-points scale is set using a range of all SNF's performance. To avoid showing outliers, the table displays the performance associated with 0 and 10 points after rounding the points to the tenths' place. The Medicare spending per beneficiary ratio compares a SNF's spending with the national mean (1.0).

Source: MedPAC analysis of claims data, 2015–2017.

threshold would disproportionately penalize SNFs who treat a high share of patients at high social risk because they are more likely to have lower performance on quality measures. Under the VIP, the lowest performing SNFs would always be penalized, regardless of their share of beneficiaries at high social risk, because the design establishes “winners” and “losers” within each peer group. Finally, a threshold would undercut the purpose of a peer-group strategy that is designed to counter the disadvantages these SNFs face in achieving good performance. Removing the lowest performing providers from earning any points would create even larger disparities between the lowest performing and other SNFs. The disparity would result from the dollars withheld from the lowest performing SNFs being redistributed to the other SNFs, increasing these other SNFs’ incentive payments (or reducing their penalties).

In designing a VIP, the Commission aims to increase the equity across SNFs when tying performance to value incentive payments. Therefore, despite the merits of including a minimum performance threshold, the Commission comes to a different conclusion and supports an approach that counters the challenges that providers treating high shares of patients at high risk have in achieving good performance.

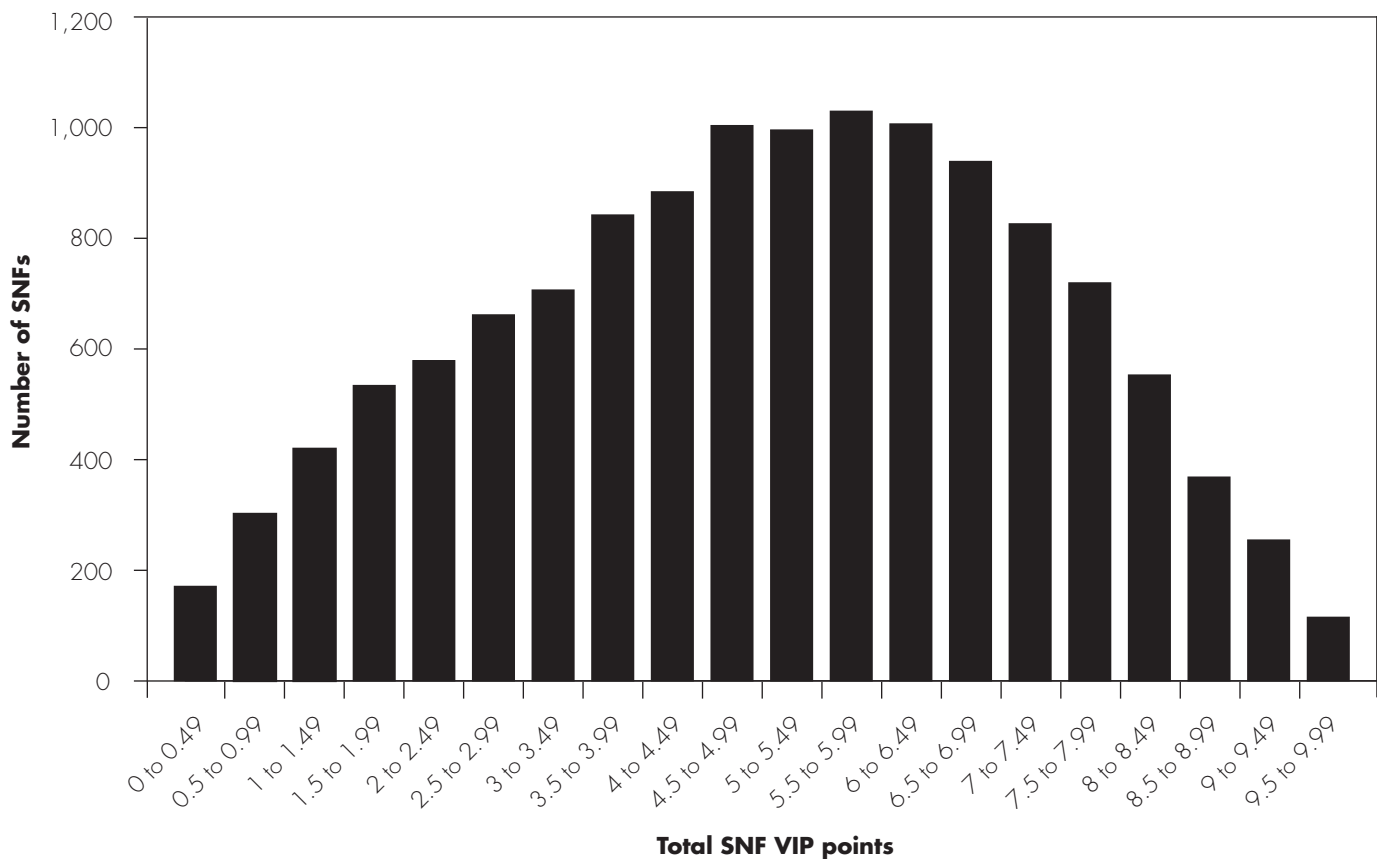
To meet beneficiaries’ and program expectations that providers furnish some minimum level of quality, CMS could more aggressively use two tools it has to encourage improvement. First, it could incorporate performance standards tied to the SNF VIP into Medicare’s Requirements of Participation. Providers that repeatedly deliver the poorest quality of care could be removed from the program. Second, it could expand its Special Focus Facilities (SFF) program to include providers with repeatedly poor performance on the VIP’s quality measures. The SFF program currently identifies providers that have a history of more numerous and more serious deficiencies cited during the facility inspection survey. In addition to being subject to increased frequency of inspections (as is currently done), SFFs could be targeted to receive technical assistance resources.

Award points based on performance

Under a SNF VIP, providers earn more points for better performance on quality metrics. In our illustrative SNF VIP modeling, points are assigned on a performance-to-points scale from 0 to 10 for each quality metric. The scale is set based on continuous distributions of all SNF scores (Table 4-7).¹³ Providers earn more points for lower hospitalization rates, lower Medicare spending per beneficiary, and higher rates of successful discharge to

**FIGURE
4-2**

Distribution of total SNF VIP performance points is statistically normal in illustrative modeling



Note: SNF (skilled nursing facility), VIP (value incentive program). The total SNF VIP points is the average of each SNFs points earned for each of the three measures using a continuous performance-to-points scale.

Source: MedPAC analysis of claims data, 2015–2017.

the community. For example, the best performing SNFs with a hospitalization rate of about 8 percent would earn 10 points for that measure. The worst performing SNFs with a hospitalization rate of about 23 percent would not earn points for that measure. For each provider, after the points for each quality measure are determined, the total SNF VIP points are calculated by averaging the points for each measure. This calculation effectively weights each measure equally.¹⁴

The distribution of the total SNF VIP points in our illustrative model is statistically normal (Figure 4-2). Most providers' total points fall in the middle of the distribution, while only a few providers score very poorly or very well.

Account for differences in patients' social risk factors using a peer-grouping mechanism

In quality payment programs, the Commission contends that Medicare should, as necessary, take into account differences in providers' populations, including social risk factors. Research shows that SNF patient populations with a substantial level of social risk factors are more difficult to treat. However, CMS should not adjust measure *results* for social risk factors because doing so can mask disparities in performance. Instead, Medicare should adjust performance *payments* through peer grouping so that, for purposes of rewards or penalties, each provider's

performance is compared with providers with a similar mix of patients at social risk—that is, its “peers.” A provider would earn points based on its performance relative to national performance scales, but how those points are converted to incentive payments would vary by peer group, with larger multipliers (i.e., the payment adjustment per point) for peer groups with higher shares of beneficiaries at high social risk. Providers would know the performance scales, their peer group assignment, and peer group multipliers before the payment year so that they have time to set their improvement goals and activities.

There is an inherent tradeoff between treating providers uniformly and factoring into the payment adjustment the fact that it is harder for providers treating high shares of patients at high social risk to achieve good performance. Under a peer-grouping approach, the same performance would earn different payment adjustments depending on the peer group to which the provider was assigned. A good performance by a SNF in a peer group with high shares of beneficiaries at high social risk would earn a larger reward because it would be more difficult for the provider to achieve this result compared with the same performance by a SNF treating few beneficiaries at high social risk. By calculating the payment adjustment by peer group, SNFs within each group compete to earn payment adjustments on a more level playing field.

A minimum performance standard is likely to disproportionately affect SNFs treating high shares of patients at high social risk because they are more likely to have lower performance on quality measures. Minimum performance standards thus undercut the purpose of peer grouping—to counter the disadvantages these SNFs face in achieving good performance. It is not possible to treat SNFs uniformly yet have a design that counters the disadvantages some SNFs face in achieving good performance. To this end, the Commission has developed a solution that improves equity across SNFs in earning rewards under a VIP. Also, to ensure transparency regarding quality of care, peer grouping would be paired with public reporting of SNF VIP measure results so that consumers (beneficiaries, health systems, and payers) can see which SNFs are high performing or low performing compared with national, state, and peer group averages.

Define the peer groups

To define peer groups in our illustrative SNF VIP modeling, we used the share of fully dual-eligible beneficiaries because it is a proxy for income, which is a social risk factor. Fully dual-eligible beneficiaries have

low income and are much more likely than other Medicare beneficiaries to have a disability, multiple chronic conditions, and functional impairments. They are also more likely to have other social risks (e.g., living alone). One downside to using fully dual-eligible status to set the peer groups is that Medicaid eligibility requirements and benefits vary across states.¹⁵ That said, in its work on social risk factors and Medicare value-based payment programs, the Department of Health and Human Services Assistant Secretary for Planning and Evaluation concluded that dual eligibility for Medicare and Medicaid remains a powerful predictor of poor outcomes in Medicare’s VBP programs (Assistant Secretary for Planning and Evaluation 2020). Its conclusion was based on an evaluation of available measures that could be used to account for differences between beneficiaries that can affect health outcomes—including education, living alone, and an area-level social deprivation index. Policymakers could consider using other social risk factors to define peer groups and could refine the definitions if more accurate, readily available proxies become available.

Our SNF VIP model uses 20 equal-sized peer groups to assign the 12,937 SNFs that met the data requirements (about 650 SNFs in each group). We settled on 20 groups according to the distributions of the performance points and shares of fully dual-eligible beneficiaries within each peer group. Twenty groups resulted in peer groups, each of which included providers with similar shares of fully dual-eligible beneficiaries. There were large differences in the average share of fully dual-eligible beneficiaries across the 20 SNF peer groups, with shares ranging from 3 percent for Peer Group 1 to 91 percent for Peer Group 20 (Table 4-8, p. 146).

In specifying the peer-group methodology, CMS should test the appropriate number and definition of groups to best group providers with similar shares of patients with social risk. One approach is to group providers using natural breaks in the distribution of the shares of fully dual-eligible beneficiaries instead of creating groups with equal number of providers. This approach may result in an unequal number of providers in each peer group, but it would more accurately reflect “like” providers. We did not find any natural breaks in the distribution that suggested alternative peer-group definitions.

Translate performance points into payment adjustments using peer groups

The SNF VIP is designed to distribute the incentive pool of dollars to each peer group’s providers based on

**TABLE
4-8**

Under a SNF VIP, using peer groups would result in larger payment adjustments per performance point for SNFs with high shares of fully dual-eligible beneficiaries

Peer group (based on share of fully dual-eligible beneficiaries)	Average share of fully dual-eligible beneficiaries	Average points	Range of performance points (25th to 75th percentiles)	Pool of dollars (in millions)	Multiplier (converts points to payment)
1 (lowest share)	3%	7.1	6.2 to 8.2	\$68.6	0.70%
2	10	7.1	6.1 to 8.2	87.2	0.71
3	15	6.8	5.8 to 8.2	86.1	0.74
4	19	6.6	5.5 to 7.8	84.7	0.78
5	23	6.3	5.1 to 7.6	77.9	0.82
6	27	6.1	5.0 to 7.3	70.6	0.85
7	30	5.9	4.7 to 7.1	69.1	0.86
8	34	5.7	4.5 to 7.1	68.2	0.89
9	37	5.5	4.2 to 6.9	62.2	0.90
10	40	5.2	3.9 to 6.5	58.2	0.98
11	44	5.1	3.8 to 6.4	56.4	1.00
12	47	4.9	3.6 to 6.1	53.2	1.06
13	51	4.5	3.1 to 5.9	52.5	1.13
14	54	4.3	2.9 to 5.7	49.5	1.21
15	58	4.0	2.4 to 5.4	48.3	1.28
16	62	3.9	2.6 to 5.2	45.1	1.33
17	67	3.7	2.1 to 5.1	45.6	1.42
18	73	3.3	1.7 to 4.7	44.0	1.61
19	80	2.9	1.4 to 4.1	51.5	1.81
20 (highest share)	91	2.6	1.3 to 3.7	56.8	2.12

Note: SNF (skilled nursing facility), VIP (value incentive program). There are about 650 SNFs in each of the 20 peer groups. Peer groups are assigned based on the share of the SNF's Medicare patients who were fully eligible for Medicare and Medicaid benefits for at least one month of the year. The incentive pool of dollars for each peer group includes 5 percent of Medicare payments for each SNF in the peer group. The multiplier is the percentage adjustment to payments per performance point.

Source: MedPAC analysis of claims data, 2015–2017.

their average performance on the three measures. The total incentive pool of dollars is divided into peer-group specific pools, with each peer group's pool based on a share of payments withheld from all providers in that peer group. In our illustrative modeling, we used a pool of dollars based on 5 percent of SNF FFS payments to create stronger incentives for providers than the current SNF VBP, which uses 2 percent of SNF payments. Our illustrative SNF VIP model includes seven steps to convert performance points to payment adjustments (see text box describing the process to convert points to a payment adjustment, pp. 148–149).

Under our model, the points that SNFs received decreased across the peer groups: The SNFs in Peer Group 1

received an average of 7.1 points, while the SNFs in Peer Group 20 received an average of 2.6 points (Table 4-8). Compared with SNFs in Peer Group 1, the SNFs in Peer Group 20 had fewer average total points because they performed worse on all three measures. The performance for the top quartile for Peer Group 20 was far below that of the bottom quartile for Peer Group 1. These results are consistent with other research that found that beneficiaries with social risk factors have worse outcomes (and that was true across health care settings) and underscores the importance of considering social risk factors when tying payments to performance. Also, the ranges in performance points (comparing the 25th and 75th percentiles) were wider for the “higher” peer groups (those with more fully

dual-eligible beneficiaries). For example, the range of performance points at the 25th and 75th percentile for Peer Group 1 was 2.0 points (6.2 points to 8.2 points), while the range for Peer Group 20 was 2.4 points (1.3 points to 3.7 points). This larger variation in performance points will translate to more variation in the range of payment adjustments.

Peer groups with providers that treat larger Medicare beneficiary populations have larger pools of dollars to distribute since the pool of dollars is based on 5 percent of Medicare payment (e.g., amount paid for each claim that year) for the providers in that peer group. Under our model, the incentive pools of dollars for each peer group ranged from \$44.0 million (Peer Group 18) to \$87.2 million (Peer Group 2).

For each peer group, we calculated a percentage adjustment to payment per SNF VIP point (referred to as the “multiplier,” defined in the text box on converting points to penalties and rewards, pp. 148–149). The multiplier converts a SNF’s total VIP points to dollars and results in the distribution of the total amount of dollars withheld for the peer group. The multiplier for each peer group is based on the total points earned by the peer group’s SNFs and the size of the incentive pool (the total dollars withheld). Because SNFs with higher shares of fully dual-eligible beneficiaries earn fewer SNF VIP points (i.e., have worse outcomes), for any given incentive pool, the SNF VIP multiplier generally increases as the share of fully dual-eligible beneficiaries increases. Because the multiplier in Peer Group 20 is the highest, SNFs in this group (with the largest share of fully dual-eligible beneficiaries) earn a higher payment adjustment per performance point compared with SNFs in other peer groups. The multipliers for SNFs in Peer Group 1 and those in Peer Group 20 ranged from 0.7 to 2.1, respectively. In this way, the SNF VIP model accounts for differences in social risk factors of SNFs’ respective beneficiary populations.

Distribute the entire provider-funded pool of dollars

The SNF VIP fully distributes provider-financed rewards and penalties within each peer group and does not attempt to achieve Medicare savings as part of the quality payment program.¹⁶ Throughout our discussion of the SNF VIP model, we refer to a “pool of dollars” through which rewards would be fully redistributed to the providers in each peer group based on their quality performance during the performance period.¹⁷

The SNF VIP rewards and penalties need to be sufficiently large to motivate providers to improve performance and avoid poor performance. Policymakers could consider a program that begins with the current SNF VBP withhold (2 percent) and scale up to a larger withhold amount (e.g., 5 percent) over two or three years. A graduated approach is used in Medicare’s home health VBP demonstration (run by the Center for Medicare & Medicaid Innovation), which started with a 3 percent withhold but increases to 8 percent by 2022. Alternatively, the SNF VIP could immediately begin with a higher withhold amount (e.g., 5 percent). Our SNF VIP model uses 5 percent of provider payments to fund the pool of dollars; provider gains or losses could be larger than their withhold, depending on how their performance compared with other providers. Within each peer group, the pool of dollars would be entirely redistributed as rewards.

Even without required program savings, the SNF VIP could lower Medicare spending because providers will have an incentive to improve on the performance measures. All three measures in the illustrative design encourage providers to avoid costly hospitalizations and unnecessary services for beneficiaries. For example, if providers reduce avoidable hospitalizations during or within 30 days after a SNF stay, program spending will decrease as a byproduct of improved quality of care for the beneficiaries they serve.

A SNF value incentive program would create strong incentives to improve performance and make payments more equitable

Our illustrative model found that a SNF VIP design is feasible and would represent an improvement over the current VBP program. Roughly equal proportions of SNFs would be rewarded and penalized, but the maximum incentive payments would be larger and create stronger incentives to improve. By using peer groups, payments under the SNF VIP would be more equitable across SNFs with different mixes of patients at high social risk. As a SNF’s share of fully dual-eligible beneficiaries increased, the SNF VIP would increase the incentive payments for those providers with better performance. In addition, compared with the current program, the SNF VIP would reduce incentives to avoid admitting clinically complex beneficiaries, particularly vulnerable patients at high social risk.

Using peer groups to convert skilled nursing facility value incentive program points to rewards and penalties

The Commission's illustrative model of the skilled nursing facility (SNF) value incentive program (VIP) distributes quality-based payments to SNFs classified in 20 peer groups. SNFs are assigned to peer groups based on their share of fully dual-eligible beneficiaries—those who qualify for both Medicare and full Medicaid benefits (full Medicaid eligibility being used as a proxy for low income). Each peer group has about the same number of SNFs and a pool of dollars based on a 5 percent payment withhold from each of the respective group's SNFs.

We follow seven steps to convert each SNF's quality measure performance to a payment adjustment for calculating rewards and penalties (see Table 4-9 for an example of how two SNFs would fare under the illustrative design).

Step 1: Calculate each SNF's performance on each of the three risk-adjusted quality measures using beneficiary-level administrative data.

Step 2: Convert each SNF's performance on each of the three quality measures to points based on a continuous performance-to-points scale (nationally determined). With a continuous scale, any difference in performance is translated to a difference in payment.

Step 3: Average each provider's points on the three measures to determine the provider's SNF VIP total points.

Step 4: For each SNF, calculate the share of Medicare admissions that are fully eligible for Medicaid. Assign SNFs into equal-sized peer groups based on the provider's share of fully dual-eligible patients.

Step 5: For each peer group, create a pool of dollars of expected SNF VIP payments based on a specified percentage of payment from each of the group's providers (we used 5 percent of each facility's total Medicare payments).

Step 6: For each peer group, calculate the multiplier (the percentage adjustment to payment per SNF VIP

point) that converts SNF VIP total points to dollars and results in spending the group's pool of dollars defined in Step 5.

$$\text{Multiplier} = \text{SNF VIP pool for peer group} / (\text{sum of each facility's total Medicare payments} \times \text{its total SNF VIP points})$$

Step 7: Compute each SNF's adjustment for the coming year based on past performance and its peer group's multiplier.

$$\text{Provider's SNF VIP-based adjustment} = \text{multiplier} \times \text{provider's SNF VIP total points}$$

These steps illustrate the conversion of SNF VIP points to payment adjustments using peer grouping. Table 4-9 considers the example of two SNFs, SNF A and SNF B. For each of the SNFs, we calculate performance results based on administrative data for each of the three quality measures (Step 1). Using the continuous performance-to-points scales, we convert quality performance to points (Step 2). We average each provider's performance on the three measures to determine SNF VIP total points (Step 3). SNF A has higher total VIP performance (10.0) than SNF B (7.5).

Though SNF A is smaller than SNF B, with 2,400 Medicare days per year compared with 4,400 for SNF B, they have similar shares of admissions who are fully dual-eligible for Medicare and Medicaid, which places them in the same peer group (Step 4). We next determine 5 percent of each of the facility's total Medicare payments (Step 5). Since SNF A has fewer Medicare days, its contribution to the pool of dollars is less (\$50,000) than SNF B's contribution (\$100,000). The total SNF VIP pool of dollars to be redistributed for this peer group is equivalent to 5 percent of combined payments to the two SNFs (\$150,000). The multiplier for the peer group is then calculated (Step 6), which sets the payment adjustment per point for the peer group. For Peer Group 1, the multiplier is 0.6 percent; thus, each SNF VIP point earned results in a payment adjustment of 0.6 percent. The peer group multiplier is then applied to each SNF's VIP point total

(continued next page)

Using peer groups to convert skilled nursing facility value incentive program points to rewards and penalties (cont.)

(Step 7). SNF A earns a payment adjustment of 6.0 percent, which is equal to \$60,000 (or a net reward of \$10,000 more than its contribution to the pool). SNF B earns a payment adjustment of 4.5 percent, which

is equal to \$90,000 (or a net penalty of \$10,000 less than its contribution to the pool). The entire pool of \$150,000 is distributed among the providers in the peer group. ■

**TABLE
4-9**

Converting points to payment adjustments for two illustrative SNFs in the same peer group

Step	Peer Group 1 (Step 4)	
	SNF A	SNF B
Medicare days [facility beds x 365 days x occupancy rate x Medicare share of days]	2,400	4,400
SNF VIP total points (Steps 1-3)	10.0	7.5
Total base facility Medicare payments	\$1,000,000	\$2,000,000
5 percent of facility Medicare payments (withhold)	\$50,000	\$100,000
Pool of dollars for peer group (Step 5)	\$150,000	
Percentage adjustment to payment per SNF VIP point (the multiplier) for peer group (Step 6) [Group's pool / sum of (provider's payments x points)]	0.60 percent adjustment per point	
SNF VIP payment adjustments (Step 7) [Points x multiplier]	6.00%	4.50%
SNF VIP payments [SNF VIP payment adjustment x total payments]	\$60,000	\$90,000
Net payments after 5 percent provider contribution to the pool	+ \$10,000	- \$10,000
Note: SNF (skilled nursing facility), VIP (value incentive program). This example assumes a peer group of two SNFs with a similar share of fully dual-eligible beneficiaries (Step 4).		

Under our illustrative value incentive program model, reward and penalty amounts vary widely

Our illustrative SNF VIP model scored each SNF on a small set of measures against a national performance-to-points scale with no cliffs (i.e., preset numeric thresholds), used peer groups (based on shares of fully dual-eligible beneficiaries) to translate performance into payment adjustments, and spent the entire incentive pool of dollars

made up of a 5 percent withhold as rewards. Because the entire pool of dollars is spent, incentives were almost evenly split between SNFs that earned rewards and SNFs that incurred penalties. Payments would increase for 52 percent of SNFs and decrease for 48 percent (Table 4-10, p. 150).

As expected, the median percent change in payments was almost zero (0.1 percent). However, behind this median

**TABLE
4-10****Summary of effects of an illustrative SNF VIP**

Program feature	Percent change
Share of SNFs whose payments would increase	52%
Share of SNFs whose payments would decrease	48
Median net change in payments	0.1
Largest reward (net increase in payment)	15
Largest penalty (net decrease in payment)	-5

Note: SNF (skilled nursing facility), VIP (value incentive program). The illustrative SNF VIP used a 5 percent withhold and fully distributed the incentive pool as incentive payments. A SNF's performance was gauged with three outcome measures: hospitalizations within the stay, successful discharge to the community, and Medicare spending per beneficiary. Peer groups based on share of fully dual-eligible beneficiaries treated were used to tie performance to incentive payments.

Source: MedPAC analysis of claims data, 2015–2017.

are large differences in payment adjustments based on the range in SNFs' performance (Figure 4-3). The largest reward was 15 percent and the largest penalty was 5 percent (the amount of the withhold).

Average net payment adjustments slightly varied by provider characteristic (Table 4-11, p. 152). Although rewards were financed entirely by the pool of withheld payments, the average net payment adjustments did not necessarily average to 0 percent because we present the unweighted averages (each facility "counts" equally). Although larger providers contribute more dollars to the pool, for reporting the average net adjustment, we weighted their net payment adjustments the same as the adjustments made for small providers.

Compared with for-profit providers, average net payments to nonprofit SNFs were slightly higher. Average net payment adjustments were slightly higher for SNFs in urban areas compared with those in rural areas. The differences in the average net payment adjustments across the groups were small and indicate that there are not large systematic differences in the adjustments. Within each category, some providers fared better, and some fared worse.

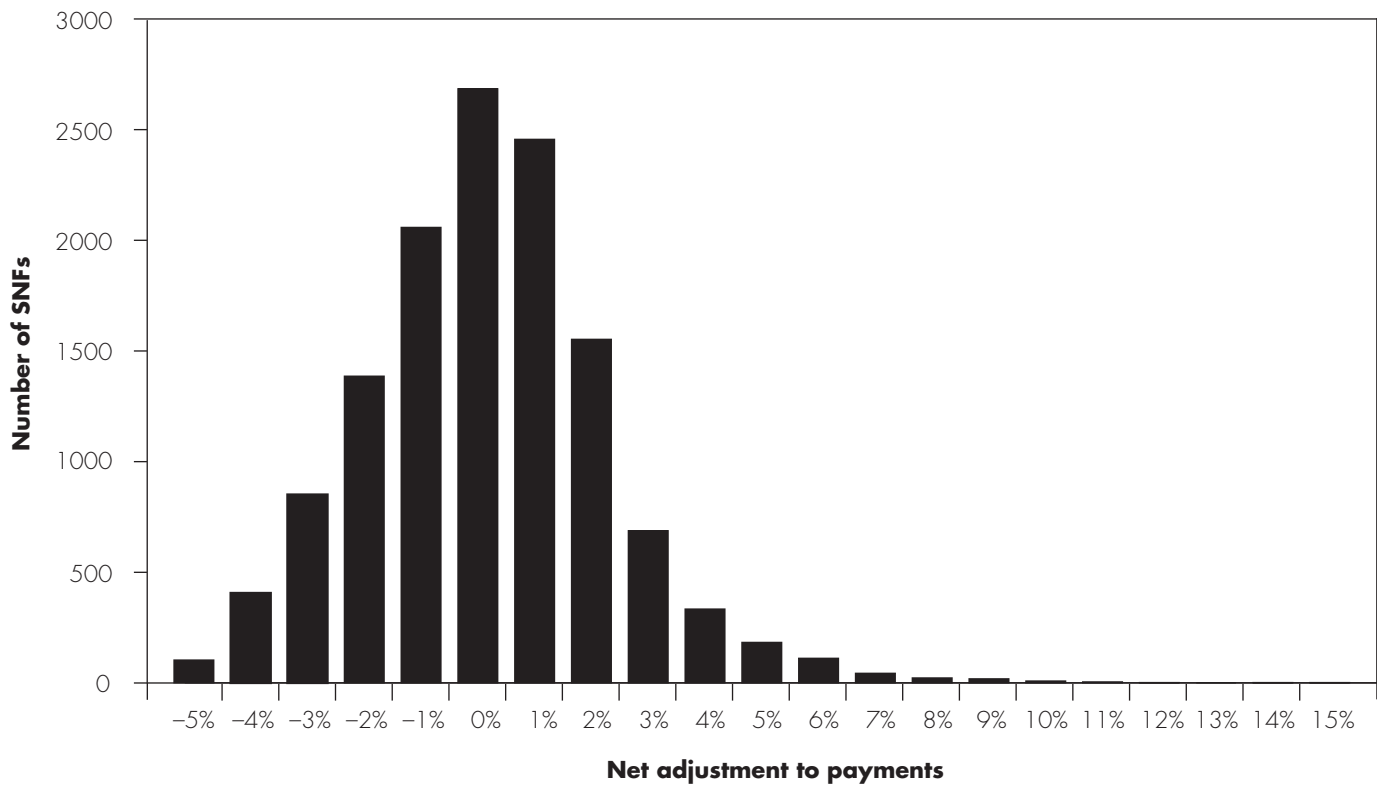
Hospital-based SNFs had notably higher average payment adjustments than freestanding SNFs. This result reflects better performance on all three measures. Compared with freestanding facilities, hospital-based providers on

average had hospitalization rates during the stay that were 45 percent lower, MSPB that was 42 percent lower, and successful discharge to community rates that were 27 percent higher. Hospital-based SNFs typically have lower readmission rates (which affects the results for the measure of hospitalization during the stay and MSPB) due to their higher staffing levels and physician presence as well as more timely lab results for patients.

To validate our results, we correlated total SNF VIP points with a measure of total nurse staffing (total nurse hours per resident per day). We would expect that facilities with higher nurse staffing levels would earn more points under the SNF VIP scoring. We found a weak but statistically significant positive relationship between the two (correlation coefficient = 0.125). This result is consistent with a study of nursing home quality measures that found that better performance was associated with higher staffing levels and lower shares of Medicaid patients (Saliba et al. 2018). We also looked at the correlation between nurse staffing levels and the two quality measures (hospitalization rates and rates of successful discharge home). We found that facilities with higher staffing had lower hospitalization rates and higher rates of successful discharge home. These results are also consistent with the study conducted by Saliba and colleagues. That study also found that hospital-based providers had lower readmission rates and higher rates of discharge to community, and that higher Medicaid shares worsened performance on both measures.

**FIGURE
4-3**

**Under the illustrative SNF VIP,
penalty and reward amounts vary widely**



Note: SNF (skilled nursing facility), VIP (value incentive program). The illustrative SNF VIP used a 5 percent withhold and fully redistributed that incentive pool as incentive payments. A SNF's performance was gauged with three outcome measures: hospitalizations within stay, successful discharge to the community, and Medicare spending per beneficiary.

Source: MedPAC analysis of 2015–2017 claims.

Compared with the SNF VBP program, the illustrative SNF VIP model resulted in more equitable payments across SNFs with higher shares of low-income patients

The Commission supports quality payment programs that account for differences in the social risk factors (e.g., income) of providers' patient populations. However, the current SNF VBP program does not account for differences in the social risk of providers' patient populations through peer grouping or any other mechanism.

Under the VIP model, rewards to the best-performing SNFs almost uniformly increased as the share of fully dual-eligible beneficiaries increased, thus rewarding

their good performance despite their challenging mix of beneficiaries at high social risk (Table 4-12, p. 153). The payments would increase up to 15 percent for the best-performing SNFs in Peer Group 20 (highest share of fully dual-eligible beneficiaries) compared with a net 2 percent increase for the best performers in Peer Group 1 (lowest share of fully dual-eligible beneficiaries). Within each peer group, there was a wide range in performances that resulted in both penalties (a net negative adjustment) and rewards (a net positive adjustment). Under this design, there would be little incentive to avoid admitting beneficiaries at high social risk.

In the peer groups with the highest shares of fully dual-eligible beneficiaries, the highest performing SNFs earn

**TABLE
4-11****Illustrative SNF VIP payment adjustments varied by provider characteristics**

SNF characteristics	Number of providers	Average net payment adjustment (after 5% withhold)
All providers	12,922	0.14%
Ownership		
Nonprofit	2,739	0.37
For profit	9,355	0.07
Government	828	0.12
Location		
Urban	9,709	0.18
Rural	3,213	0.01
Facility type		
Hospital based	501	1.92
Freestanding	12,421	0.07

Note: SNF (skilled nursing facility), VIP (value incentive program). The table shows unweighted average net payment adjustments. SNFs with missing data for any characteristic were excluded from the table. Although rewards were financed entirely by the pool of withheld payments, average net payment adjustments do not necessarily average to 0 percent because larger providers, which contributed more dollars to the pool, have their net payment adjustments weighted the same as smaller providers, which contributed fewer dollars to the pool on average.

Source: MedPAC analysis of claims data, 2015–2017.

large rewards because they earned the most points and the multipliers for the peer groups are large. For example, a SNF in Peer Group 1 that earned 10 points would have performed about 3 points better than the average for the peer group (7.1 points), so it receives a reward of about a 2 percent net payment adjustment. On the other hand, a SNF in Peer Group 20 that received close to 10 points performed about 7 points better than the average for the peer group (2.6 points). Although both SNFs had exceptional quality scores, compared with the SNF in Peer Group 1, the SNF in Group 20 had achieved this level of performance despite having a patient population with high levels of social risk. With a large peer group multiplier, the SNF VIP formula rewards that success with a 15 percent net payment adjustment. Both SNFs had excellent performance, but one did so under relatively more difficult circumstances.

As previously noted, one inherent feature of the peer-grouping mechanism is that the same total number of points could translate to a penalty in one peer group and a reward in another. For example, a SNF in Peer Group 1 that earns 2.5 points would receive about a 3 percent

penalty, whereas a SNF in Peer Group 20 (earning the same number of points) would receive a 0.3 percent reward. Although there are differences across the peer groups in how many points translate into a reward, the SNF VIP does not result in rewards for the poorest performing SNFs. In our illustrative model, all SNFs in the bottom 14th percentile of performance (those with the lowest total points) received a penalty (lost some or all of the withhold), regardless of their peer group.

Compared with the current VBP program, the illustrative VIP would make payment adjustments more equitable for SNFs with high shares of fully dual-eligible patients. The current program steadily lowers payments as the share of fully dual-eligible beneficiaries treated increases, disadvantaging providers treating these patients (Figure 4-4, p. 154). In contrast, under the SNF VIP, there were only small differences in the average percent payment adjustments across the peer groups, and, on average, SNFs in the peer group with the highest share of fully dual-eligible beneficiaries were more likely to be rewarded in the SNF VIP than those same SNFs in the VBP program.

**TABLE
4-12**

In the illustrative SNF VIP, rewards to the best-performing SNFs almost uniformly increased as the share of fully dual-eligible beneficiaries increased

Peer group (based on share of fully dual-eligible beneficiaries)	Average performance points	Multiplier	Net payment adjustment (after 5% withhold)
1 (lowest share)	7.1	0.70%	-4.9% to 2.0%
2	7.1	0.71	-3.3 to 2.1
3	6.8	0.74	-4.5 to 2.3
4	6.6	0.78	-3.9 to 2.7
5	6.3	0.82	-4.3 to 3.0
6	6.1	0.85	-4.3 to 3.4
7	5.9	0.86	-4.4 to 3.3
8	5.7	0.89	-4.9 to 3.7
9	5.5	0.90	-4.8 to 4.0
10	5.2	0.98	-4.7 to 4.5
11	5.1	1.00	-4.9 to 4.9
12	4.9	1.06	-4.5 to 5.6
13	4.5	1.13	-5.0 to 5.5
14	4.3	1.21	-4.7 to 6.3
15	4.0	1.28	-5.0 to 7.4
16	3.9	1.33	-4.9 to 8.0
17	3.7	1.42	-4.9 to 7.5
18	3.3	1.61	-4.9 to 10.2
19	2.9	1.81	-4.9 to 12.0
20 (highest share)	2.6	2.12	-5.0 to 15.0

Note: SNF (skilled nursing facility, VIP (value incentive program). There are about 650 SNFs in each of the 20 peer groups. SNFs are assigned to peer groups based on the share of a SNF's Medicare patients who were fully eligible for Medicare and Medicaid benefits for at least one month of the year. The table shows the average performance points for the peer group; ranges (the 25th and 75th percentiles) are found in Table 4-8 (p. 146). The multiplier is the percentage adjustment to payments per point. Negative payment adjustments are penalties; positive adjustments are rewards.

Source: MedPAC analysis of claims data, 2015–2017.

A more equitable distribution of rewards and penalties should reduce incentives to select patients with fewer social risk factors.

Compared with the SNF VBP program, the illustrative SNF VIP model would reduce the incentive to avoid admitting clinically complex beneficiaries

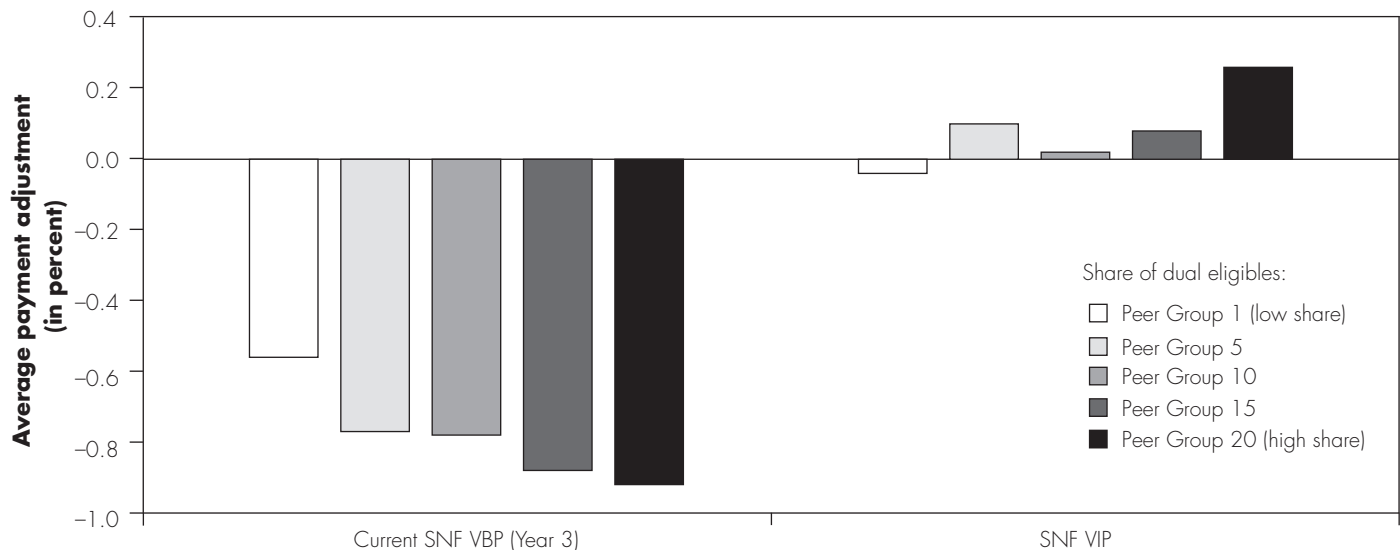
A quality payment program should not create incentives for providers to avoid admitting clinically complex patients to perform better in the program. Our analysis of the SNF VBP program found that the average clinical risk scores (measured by the average hierarchical condition category, or HCC, where higher scores indicate more comorbidities) were inversely related to the size of the

payment adjustment (Figure 4-5, p. 155). SNFs with low risk scores (the bottom quintile of risk scores) received a reward (on average a net 0.24 percent adjustment), whereas SNFs with high average risk scores (the top quintile of risk scores) were penalized (an average negative payment adjustment of -0.18 percent).

In contrast, under the SNF VIP, there was no notable difference in average percent payment adjustments across categories of risk scores. SNFs with low risk scores received a small reward (on average a net 0.07 percent adjustment). Similarly, SNFs with high average risk scores also received a small reward (an average payment adjustment of 0.06 percent). Thus, compared with the SNF VBP program, our SNF VIP model would make payment

**FIGURE
4-4**

Compared with SNF VBP program, the illustrative SNF VIP makes payment adjustments more equitable for SNFs with higher shares of fully dual-eligible beneficiaries



Note: SNF (skilled nursing facility), VBP (value-based purchasing), VIP (value incentive program). The results of the SNF VBP program in year 1 and year 2 (not shown) had the same effects as year 3. Peer group is based on the share of fully dual-eligible beneficiaries. Peer Group 1 has an average 3 percent share of fully dual-eligible beneficiaries. Peer Group 20 has an average 91 percent share of fully dual-eligible beneficiaries. In accordance with statute requirements, the SNF VBP program has required penalties because SNFs in the bottom 40 percent of rankings have payments reduced.

Source: MedPAC analysis of claims data, 2015–2017, and SNF VBP program data from CMS.

adjustments more equitable for SNFs grouped by clinical risk scores. As a result, SNFs would have less incentive to select healthier patients to improve performance, likely due to the use of peer grouping to account for differences in patient populations (clinical risk is tied to social risk) and the use of more reliable measure results.

Recommendations

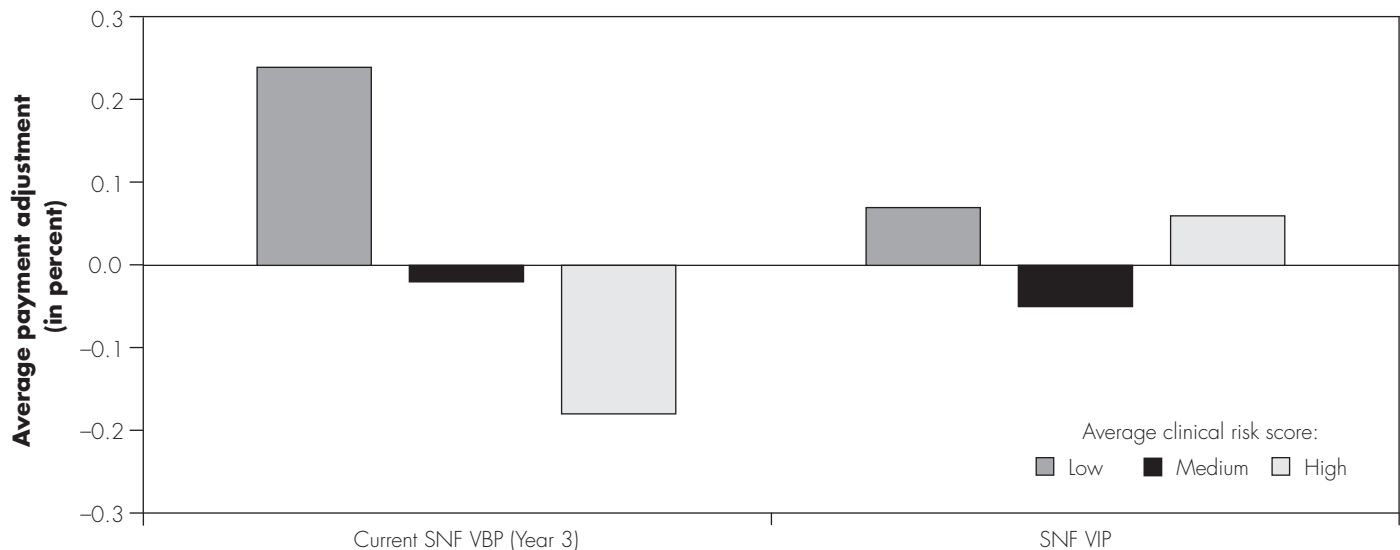
The current design of the SNF VBP program has serious shortcomings that undermine its ability to accurately evaluate quality performance and motivate providers to improve. The recently legislated changes to the SNF VBP program may improve some aspects, depending on how they are implemented. An expanded measure set will gauge additional dimensions of performance, but CMS will need to adopt a robust validation of provider-reported measures (such as improvements in functional status)

before they are used to measure quality or to reward or penalize providers. To make the measure results more reliable, CMS needs to use a higher threshold for setting minimum counts. Otherwise, the program could continue to reward and penalize providers based on statistical noise rather than signal performance. And, even if the measure set is expanded and the measure results are more reliable, other fundamental flaws—the scoring, the lack of consideration of social risk factors, and the incentive pool payouts—remain and require correction.

The SNF VIP design elements would correct the flaws of the current SNF VBP program. Roughly equal proportions of SNFs would be rewarded and penalized, but the maximum incentive payments would be larger and create stronger incentives to improve. By using peer groups, payments under the SNF VIP would be more equitable across SNFs with different mixes of patients at high social risk. As a SNF's share of fully dual-eligible beneficiaries increased, the SNF VIP would increase the incentive

**FIGURE
4-5**

Compared with SNF VBP program, the illustrative SNF VIP model makes payment adjustments more equitable across SNFs with different average clinical risk scores



Note: SNF (skilled nursing facility), VBP (value-based purchasing), VIP (value incentive program). The SNF VBP program year 1 and year 2 results (not shown) had the same effects as year 3. The low-risk category includes about 2,200 (bottom 20 percent) SNFs with average risk scores less than 3.47. The high-risk category includes about 2,200 (top 20 percent) SNFs with average risk scores greater than 4.70. All other SNFs were grouped in the medium risk score category.

Source: MedPAC analysis of claims data, 2015–2017, and SNF VBP program data from CMS.

payments for those providers with better performance. In addition, compared with the current program, the SNF VIP would reduce incentives to avoid admitting medically complex beneficiaries.

Patient experience is an important component of quality measurement. Steps should be taken to develop measures that capture the beneficiary experience during SNF stays. Such measures should become part of the measure set for the SNF VIP and should be publicly reported.

RECOMMENDATION 4-1

The Congress should eliminate Medicare’s current skilled nursing facility (SNF) value-based purchasing program and establish a new SNF value incentive program (VIP) that:

- **scores a small set of performance measures;**
- **incorporates strategies to ensure reliable measure results;**

- **establishes a system for distributing rewards that minimizes cliff effects;**
- **accounts for differences in patient social risk factors using a peer-grouping mechanism; and**
- **completely distributes a provider-funded pool of dollars.**

SNFs would be scored on their performance on quality outcome and resource use measures, such as hospitalizations within the SNF stay, successful discharge to the community, and Medicare spending per beneficiary. The measure set should be revised as other measures, such as patient experience, become available. Measures that rely on provider-reported patient assessment information (such as functional status) should not be included until CMS has a process in place to regularly validate these data. The SNF VIP would incorporate strategies to ensure reliable measure results, such as using multiple years of data to calculate results.

The SNF VIP would award points based on achievement relative to a national performance scale, with minimal cliffs, or thresholds, that restrict the awarding of performance points. To account for differences in the social risk factors of SNF patient populations, the SNF VIP would stratify providers into defined peer groups, such as peer groups based on the share of Medicaid-eligible beneficiaries treated. Researchers have found dual eligibility for Medicare and Medicaid to be the most powerful proxy for social risk in currently available data. A provider's incentive payment adjustment would be based on its performance relative to a national comparison and the providers in its peer group. Within each peer group, performance points would be converted to a payment adjustment based on each SNF's performance relative to its peers. We expect that as more data and research about the effects of patient-level social risk factors on quality performance become available, the approaches to assigning beneficiaries to a peer group would evolve.

The SNF VIP would distribute rewards using the entire provider-funded pool of dollars within each peer group. Policymakers should determine the withheld amount needed to fund a pool of dollars that motivates quality improvement. The amount could start as a small withhold and increase its size over time.

An improved SNF quality payment program with stronger incentives is not the only tool Medicare has to improve provider performance. The SNF VIP will be coupled with public reporting of provider performance on the measures that hold SNFs accountable to consumers and encourage improvement. Public reporting of provider performance should include comparisons to national, state, and peer group performance. Also, Medicare should target technical assistance resources to low-performing providers so they develop the skills and infrastructure needed for successful quality improvement. CMS could also expand its Requirements of Participation and the Special Focus Facility Program to more aggressively encourage providers to improve the quality of care they furnish. Providers with persistently poor performance could be disenrolled from the Medicare program.

RATIONALE 4-1

The current SNF VBP program has many flaws. Recent congressional action corrects some flaws, but other shortcomings remain and need to be addressed. The SNF VBP performance scoring includes cliffs that may not provide enough encouragement for improvement. The

design does not address variation in the social risk factors of the patients treated by SNFs, which disadvantages some SNFs. The SNF VBP program does not distribute the entire pool of incentive payments but instead retains a portion of the incentive pool as program savings. The Commission concluded, based on its analysis, that the current SNF VBP program is worse than having no program and should be immediately eliminated until a replacement SNF VIP that corrects these flaws can be established. A SNF VIP will create strong incentives to improve performance and make payments more equitable.

IMPLICATIONS 4-1

Spending

- The SNF VIP should be budget neutral and not used to directly achieve program savings.
- Currently, the VBP program results in savings because it retains 40 percent of the 2 percent withheld as savings. To ensure that the recommendation does not increase program spending relative to current law, the Congress could reduce a future update by the amount required to recover the program savings currently realized by the SNF VBP program (estimated to be \$244 million).
- Although budget neutral, providers may improve their outcomes (such as by reducing hospital and other service use) that would lower program spending.

Beneficiary and provider

- Access may improve for beneficiaries at high social risk or who are medically complex because the SNF VIP more equitably rewards providers with different mixes of patients.
- Beneficiaries may experience an increase in the quality of care they receive from SNFs because SNFs have stronger incentives to improve.
- By not disadvantaging SNFs that treat medically complex patients or patients at high social risk, the SNF VIP will improve equity across SNFs and devote more resources to SNFs treating high-need populations.
- We do not expect this recommendation to have adverse effects on SNF participation in Medicare.

RECOMMENDATION 4-2

The Secretary should finalize development of and begin to report patient experience measures for skilled nursing facilities.

RATIONALE 4-2

Patient experience is a key measure of a provider's quality. Patient experience surveys can capture aspects of care during a SNF stay, including safety, cleanliness, timeliness of nursing staff, and overall rating of the facility. Across the health care system, research finds that improving patient experience translates to better health. Patients who feel heard and have positive care experiences have better health outcomes and are more likely to adhere to treatment plans. Although the Department of Health and Human Services and industry organizations have developed initial surveys to capture the beneficiary experience during SNF stays, the Secretary has not taken the next steps to finalize a SNF patient experience survey and data collection process. The Secretary should devote resources to finalize survey tools and require SNFs to collect and report the information so that patient experience measures can be calculated. Eventually, patient experience should become part of public reporting and the measure set for the SNF VIP. Collecting patient experience information will add administrative costs to both SNFs and the Department, but the Commission contends that these are valuable measures to assess a SNF's quality of care.

IMPLICATIONS 4-2

Spending

- This recommendation would have no effect on Medicare spending. CMS may incur additional administrative costs.

Beneficiaries and providers

- We do not expect this recommendation to have adverse effects on beneficiaries' access to SNFs or on SNF participation in Medicare.
- Beneficiaries may experience an improvement in the quality of care they receive from providers because SNFs will have an incentive to improve patient experience when these measures are publicly reported and scored in the SNF VIP. Beneficiaries can use this information to select a provider. Providers can use the information about patient experience to improve the care they furnish.
- SNFs will have higher administrative costs when the Secretary requires providers to collect and report patient experience surveys. ■

Endnotes

- 1 The program affects payments to all SNFs under the prospective payment system, including hospital-based and freestanding facilities and nonrural critical access hospital (CAH) swing beds. Rural CAH swing beds are excluded from the program.
- 2 Reliability is the ratio of variation in the measure across providers (the “signal”) to the total variation (the across-provider variation plus the within-provider, or “noise,” variation). Reliability increases with sample size.
- 3 The short-stay quality measures included the share of residents who report moderate to severe pain, the share of residents with pressure ulcers that were new or worsened, the share of residents who were assessed and appropriately given the influenza vaccine, and the share of residents who were assessed and appropriately given the pneumonia vaccine. The four Nursing Home Compare ratings were overall quality, health inspection, total staffing, and registered nurse staffing. The correlation between readmissions and pressure ulcers was not statistically significant.
- 4 The assessments for patients treated in hospital-based SNFs (4 percent of stays) would not be entirely independent and could be influenced by financial incentives.
- 5 CMS recently released for public comment a draft specification for a claims-based measure of SNF health care–associated infections (HAIs) that aims to estimate the risk-standardized rate of HAIs that are acquired during a SNF stay and result in hospitalization.
- 6 The measure for inpatient rehabilitation facilities counts readmissions during the stay, while the home health measure counts readmissions during the first 30 days of a home health episode.
- 7 CMS named this measure “discharge to the community,” but we refer to it as “successful discharge to the community” to differentiate it from other measures used by the Commission to track the share of beneficiaries discharged to the community following SNF and inpatient rehabilitation facility stays.
- 8 Medicare Advantage plans are required to report results of the National Committee for Quality Assurance’s Healthcare Effectiveness Data Information Set. The *Hospitalization Following Discharge from a Skilled Nursing Facility* measure captures the share of SNF discharges to the community that were followed by an unplanned acute hospitalization for any diagnosis within 30 and 60 days. It is conceptually the same as the hospitalization portion of the successful discharge to community measure, but there are differences in how the measures are calculated; for example, the risk adjustment models are different. CMS should consider aligning measure specifications across settings.
- 9 CAHPS is a registered trademark of AHRQ, a U.S. government agency.
- 10 *Reliability* refers to whether the measure can distinguish among providers’ performance.
- 11 Literature suggests 0.7 is an acceptable standard for reliability (Adams et al. 2010, Kao et al. 2011, Krell et al. 2014, Mehrotra et al. 2010, Scholle et al. 2008). Reliability values range from 0 to 1.0, where 0 indicates the measure captures no real differences in performance (it captures only noise, or the random variation unrelated to performance) and 1.0 indicates the measure captures all differences in real performance (all signal).
- 12 Assuming the SNF VIP requirement that a SNF must have at least 60 discharges (reliability of 0.70) to calculate reliable measure results, about 40 percent of SNFs would be held harmless (not participate in the program) if using one year of data to calculate results. If that requirement is applied using three years of data, then about 10 percent of SNFs would be held harmless. The current SNF VBP design holds harmless 16 percent of providers because they do not meet the CMS minimum stay count of 25 (reliability of 0.40) within the performance year.
- 13 In our VIP model, we set each measure’s continuous performance-to-points scale using a beta distribution, which helps to smooth the extremes of a distribution by providing estimates of a true percentile independent of associated issues such as ceiling effects.
- 14 Our modeling excluded 23 percent of SNFs because they either did not have 60 discharges or they were missing data for at least one measure. CMS would need to decide whether and how to reweight measure scoring for providers with missing measure results.
- 15 About half of fully dual-eligible beneficiaries qualify for Medicaid because they receive Supplemental Security Income (SSI), a federal program with uniform benefits. However, there is variation across states in Medicaid eligibility criteria for people who are aged or disabled but not poor enough to qualify for SSI.

- 16 The SNF VIP should be designed to be budget neutral and not be used to achieve program savings. To ensure that program spending does not increase relative to current law, the Congress would reduce a future update by the amount required to recover the program savings currently realized by the SNF VBP (estimated to be \$244 million).
- 17 As with the SNF VBP program, we envision a mechanism that would distribute the rewards through a prospectively set payment adjustment. Each year, all payments to a provider would increase or decrease by a certain percentage based on their performance relative to the SNFs in their peer group.

References

- Adams, J. L., A. Mehrotra, J. W. Thomas, et al. 2010. Physician cost profiling—Reliability and risk of misclassification. *New England Journal of Medicine* 362, no. 11 (March 18): 1014–1021.
- Agency for Healthcare Quality and Research, Department of Health and Human Services. 2020a. Section 2: Why improve patient experience? <https://www.ahrq.gov/cahps/quality-improvement/improvement-guide/2-why-improve/index.html>.
- Agency for Healthcare Quality and Research, Department of Health and Human Services. 2020b. Talking quality: Reporting to consumers on health care quality. <https://www.ahrq.gov/talkingquality/index.html>.
- Aligning Forces for Quality. 2009. *How to display comparative information that people can understand and use*. Research conducted on behalf of the Robert Wood Johnson Foundation. Washington, DC: Aligning Forces for Quality.
- Angelelli, J., D. C. Grabowski, and V. Mor. 2006. Effect of educational level and minority status on nursing home choice after hospital discharge. *American Journal of Public Health* 96, no. 7 (July): 1249–1253.
- Assistant Secretary for Planning and Evaluation, Department of Health and Human Services. 2020. *Report to Congress: Social risk factors and performance under Medicare's value-based purchasing programs*. The second of two reports required by the Improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014. Washington, DC: ASPE. <https://aspe.hhs.gov/system/files/pdf/253971/ASPESESRTCfull.pdf>.
- Assistant Secretary for Planning and Evaluation, Department of Health and Human Services. 2016. *Report to Congress: Social risk factors and performance under Medicare's value-based purchasing programs*. Washington, DC: ASPE.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021. Medicare program; prospective payment system and consolidated billing for skilled nursing facilities; updates to the Quality Reporting Program and Value-Based Purchasing Program for federal fiscal year 2022. Proposed rule. *Federal Register* 86, no. 71 (April 15): 19954–20022.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020a. CoreQ: Short stay discharge measure. https://cmit.cms.gov/CMIT_public/ViewMeasure?MeasureId=3436.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020b. Medicare and Medicaid programs, Clinical Laboratory Improvement Amendments (CLIA), and Patient Protection and Affordable Care Act; additional policy and regulatory revisions in response to the COVID–19 public health emergency Interim final rule. *Federal Register* 85, no. 171 (September 2): 54820–54874.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020c. Medicare program; prospective payment system and consolidated billing for skilled nursing facilities; updates to the value-based purchasing program for federal fiscal year 2021. Proposed rule. *Federal Register* 85, no. 73 (April 15): 20914–20949.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2018a. Medicare program; prospective payment system and consolidated billing for skilled nursing facilities (SNF) final rule for FY 2019, SNF Value-Based Purchasing Program, and SNF Quality Reporting Program. Proposed rule. *Federal Register* 83, no. 153 (August 8): 39162–39290.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2018b. Medicare program; prospective payment system and consolidated billing for skilled nursing facilities (SNF) proposed rule for FY 2019, SNF Value-Based Purchasing Program, and SNF Quality Reporting Program. Proposed rule. *Federal Register* 83, no. 89 (May 8): 21018–21101.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2017. Medicare program; prospective payment system and consolidated billing for skilled nursing facilities for FY 2018, SNF value-based purchasing program, SNF quality reporting program, survey team composition, and correction of the performance period for the NHSN HCP influenza vaccination immunization reporting measure in the ESRD QIP for PY 2020. Final rule. *Federal Register* 82, no. 149 (August 4): 36530–36636.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2016. Medicare program; prospective payment system and consolidated billing for skilled nursing facilities for FY 2017, SNF value-based purchasing program, SNF quality reporting program, and SNF payment models research. Final rule. *Federal Register* 81, no. 151 (August 5): 51970–52053.
- CoreQ. 2019. What is CoreQ? <http://www.coreq.org/>.

- Daras, L. C., A. Vadnais, Y. Z. Pogue, et al. 2021. Nearly one in five skilled nursing facilities awarded positive incentives under value-based purchasing. *Health Affairs* 40, no. 1 (January): 146–155.
- Dimick, J. B., D. O. Staiger, B. L. Hall, et al. 2013. Composite measures for profiling hospitals on surgical morbidity. *Annals of Surgery* 257, no. 1 (January): 67–72.
- Dimick, J. B., D. O. Staiger, N. H. Osborne, et al. 2012. Composite measures for rating hospital quality with major surgery. *Health Services Research* 47, no. 5 (October): 1861–1879.
- Eijkenaar, F., M. Emmert, M. Scheppach, et al. 2013. Effects of pay for performance in health care: A systematic review of systematic reviews. *Health Policy* 110, no. 2–3 (May): 115–130.
- Grabowski, D. C., and N. G. Castle. 2004. Nursing homes with persistent high and low quality. *Medical Care Research and Review* 61, no. 1 (March): 89–115.
- Grabowski, D. C., D. G. Stevenson, D. J. Caudry, et al. 2017. The impact of nursing home pay-for-performance on quality and Medicare spending: Results from the nursing home value-based purchasing demonstration. *Health Services Research* 52, no. 4 (August): 1387–1408.
- Hefele, J. G., X. J. Wang, and E. Lim. 2019. Fewer bonuses, more penalties at skilled nursing facilities serving vulnerable populations. *Health Affairs* 38, no. 7 (July): 1127–1131.
- IntegraMed Analytics. 2020. Underreporting in nursing home quality measures. <https://www.nursinghomereporting.com/post/underreporting-in-nursing-home-quality-measures>.
- Kao, L. S., A. A. Ghaferi, C. Y. Ko, et al. 2011. Reliability of superficial surgical site infections as a hospital quality measure. *Journal of the American College of Surgeons* 213, no. 2 (August): 231–235.
- Konetzka, R. T., D. C. Grabowski, M. C. Perrailon, et al. 2015. Nursing home 5-star rating system exacerbates disparities in quality, by payer source. *Health Affairs* 34, no. 5 (May): 819–827.
- Konetzka, R. T., S. M., and R. Werner. 2016. *Incentive design and quality improvements: Evidence from state Medicaid nursing home pay-for-performance*. York, England: University of York Health, Econometrics and Data Group.
- Krell, R. W., A. Hozain, L. S. Kao, et al. 2014. Reliability of risk-adjusted outcomes for profiling hospital surgical quality. *JAMA Surgery* 149, no. 5 (May): 467–474.
- L & M Policy Research. 2013. *Evaluation of the nursing home value based purchasing demonstration. Year 3 and final evaluation Report*. Washington, DC: L & M Policy Research. https://www.whcawical.org/files/2014/02/NursingHomeVBP_EvalReport.pdf.
- Marshall, M. N., P. G. Shekelle, H. T. Davies, et al. 2003. Public reporting on quality in the United States and the United Kingdom. *Health Affairs* 22, no. 3 (May–June): 134–148.
- Medicaid and CHIP Payment and Access Commission. 2019. States’ Medicaid fee-for-service nursing facility payment policies. <https://www.macpac.gov/publication/nursing-facility-payment-policies/>.
- Medicare Payment Advisory Commission. 2021. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2019a. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2019b. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2018. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2016. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2015. MedPAC comment letter on CMS’s proposed rule on skilled nursing facilities for FY 2016. May 19.
- Mehrotra, A., J. L. Adams, J. W. Thomas, et al. 2010. Cost profiles: Should the focus be on individual physicians or physician groups? *Health Affairs* 29, no. 8 (August): 1532–1538.
- Mor, V., J. Zinn, J. Angelelli, et al. 2004. Driven to tiers: Socioeconomic and racial disparities in the quality of nursing home care. *Milbank Quarterly* 82, no. 2: 227–256.
- National Quality Forum. 2021. Skilled nursing facility 30-day all-cause readmission measure (SNFRM). <https://www.qualityforum.org>.

- Qi, A. C., A. A. Luke, C. Crecelius, et al. 2020. Performance and penalties in year 1 of the skilled nursing facility value-based purchasing program. *Journal of the American Geriatrics Society* 68, no. 4 (April): 826–834.
- Rahman, M., D. C. Grabowski, V. Mor, et al. 2016. Is a skilled nursing facility's rehospitalization rate a valid quality measure? *Health Services Research* 51, no. 6 (December): 2158–2175.
- RTI International. 2018. Memorandum on minimum eligible stay threshold Analysis for the SNF VBP program. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/Other-VBPs/SNFRM-Reliability-Testing-Memo.pdf>.
- RTI International. 2015. *Skilled nursing facility readmission measure (SNFRM) NQF #2510: All-cause risk-standardized readmission measure*. Draft technical report. Waltham, MA: RTI International. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/SNF-VBP/Downloads/SNFRM-TechReportSupp-2019-.pdf>.
- Saliba, D., D. L. Weimer, Y. Shi, et al. 2018. Examination of the new short-stay nursing home quality measures: Rehospitalizations, emergency department visits, and successful returns to the community. *Journal of Health Care Organization, Provision and Financing* 55: 1–11.
- Sanghavi, P., S. Pan, and D. Caudry. 2020. Assessment of nursing home reporting of major injury falls for quality measurement on Nursing Home Compare. *Health Services Research* 55, no. 2 (April): 201–210.
- Scholle, S. H., J. Roski, J. L. Adams, et al. 2008. Benchmarking physician performance: Reliability of individual and composite measures. *American Journal of Managed Care* 14, no. 12 (December): 833–838.
- Sharma, H., M. C. Perrailon, R. M. Werner, et al. 2020. Medicaid and nursing home choice: Why do duals end up in low-quality facilities? *Journal of Applied Gerontology* 39, no. 9 (September): 981–990.
- Werner, R. M., R. T. Konetzka, and D. Polsky. 2013. The effect of pay-for-performance in nursing homes: Evidence from state Medicaid programs. *Health Services Research* 48, no. 4 (August): 1393–1414.
- Werner, R. M., M. Skira, and R. T. Konetzka. 2016. An evaluation of performance thresholds in nursing home pay-for-performance. *Health Services Research* 51, no. 6 (December): 2282–2304.

C H A P T E R

5

**Congressional request:
Medicare beneficiaries'
access to care in rural areas
(interim report)**

Congressional request: Medicare beneficiaries' access to care in rural areas (interim report)

Chapter summary

The Commission has a long history of monitoring beneficiaries' access to care. In our June 2012 report to the Congress, we analyzed rural beneficiaries' access to care by comparing their use of services with urban beneficiaries' use. The Commission found large differences across geographic regions of the country but few differences between rural and urban beneficiaries' service use within regions. However, the report prompted the Commission to establish a set of principles designed to guide expectations and policies with respect to rural access, quality, and payment. The Commission established that:

- Access to care should be equitable for rural and urban beneficiaries. However, equitable access does not mean equal travel times for all services. Small rural communities are expected to have longer travel times to access highly specialized services given the large population base needed to support such services.
- Expectations for quality of care in rural and urban areas should be equal for nonemergency services that rural providers choose to deliver.
- Rural payment adjustments should be empirically justified; targeted toward low-volume, isolated providers; and designed to encourage cost control on the part of providers.

In July 2020, the House Committee on Ways and Means submitted a bipartisan request for the Commission to update its June 2012 report. The Committee also requested further information on beneficiaries who are dually

In this chapter

- Background
- Rural and urban beneficiaries have similar access to care, although some differences exist
- Examining causes and effects of rural hospital closures
- Improving Medicare's policies to support access to care in rural areas

eligible for Medicaid and Medicare, have multiple chronic conditions, or reside in a medically underserved area. In addition, the Committee requested that the Commission examine factors and trends that may have affected rural communities since the 2012 report. The Committee requested an interim report by June 2021 and a final report by June 2022.

In this interim report, we examine rural beneficiaries' access to care primarily using Medicare claims data, supplemented with survey data and interviews with rural stakeholders. We also examine rural hospital closures, a trend that has become more prominent since the Commission's 2012 report and could affect beneficiaries' access to care.

Comparing rural and urban beneficiaries' access to care

The Commission's annual survey of Medicare beneficiaries and CMS's Medicare Current Beneficiary Survey suggest that rural and urban beneficiaries have similar access to care, although some minor differences exist and those differences may increase as rurality increases.

Likewise, our analysis of Medicare claims data indicates rural and urban beneficiaries generally have comparable utilization rates among the types of services we examined—clinician visits, hospital inpatient admissions, hospital outpatient visits, home health episodes, and skilled nursing facility days. As we did in our 2012 report, we found substantial variation across geographic regions of the country, and those differences often were far larger than differences between rural and urban beneficiaries within a given region. Our findings by type of service include the following:

- For clinician services, we found that rural beneficiaries had fewer evaluation and management (E&M) encounters in 2018 than urban beneficiaries after accounting for substantial amounts of regional variation. Rural beneficiaries' lower E&M use was mainly attributable to fewer visits with specialist physicians, which may in turn be related to the longer distances rural beneficiaries travel to access specialists.
- For hospital inpatient services, we found that utilization rates in 2018 were very similar between rural and urban beneficiaries. Hospital inpatient use varied substantially across geographic regions of the country, but differences between rural and urban beneficiaries within regions were relatively small.
- For hospital outpatient services, rural beneficiaries had greater use in 2018 than urban beneficiaries, and regional variation was very large. Moreover, variation in the use of hospital outpatient department services between rural and urban beneficiaries could reflect differences in where patients received their care, as

opposed to how much care they received. For example, rural beneficiaries might have received more of their imaging services at hospitals (which were included in our analysis) rather than freestanding imaging centers (which were not).

- For home health and skilled nursing facility services, we found that rural beneficiaries had similar or higher utilization rates in 2018 than urban beneficiaries. Service use varied substantially across the nation's geographic regions. Variation in home health use was particularly notable, with utilization rates varying by sixfold to eightfold across regions.

Across our claims-based analyses, beneficiaries living in the most remote areas—frontier counties—tended to use fewer services compared with urban and (oftentimes) other rural beneficiaries. Beneficiaries residing in frontier areas represent about 1 percent of the Medicare population, are concentrated in a small number of states that generally have lower use of services (e.g., Montana and Wyoming), and appear to be somewhat healthier than other rural beneficiaries. These factors make it difficult to discern the extent to which lower utilization rates among frontier beneficiaries are attributable to access issues, regional provider practice patterns, beneficiary preferences, or differences in health status.

Examining the causes and effects of recent rural hospital closures

Rural hospital closures have increased since 2013. To study the causes and effects of these closures, we conducted interviews with stakeholders (including community members, hospital executives, and clinician leaders) from three communities that experienced a recent hospital closure, and we analyzed a cohort of 40 rural hospitals that closed between 2015 and 2019.

Stakeholders from the three communities suggested that, prior to closure, patients commonly bypassed their local hospital for inpatient care, often due to perceived deficits in capabilities. Stakeholders from these communities reported that after their local hospital closed, the communities focused on maintaining access to emergency department (ED) care, urgent care, and primary care. In the three communities in which we conducted interviews, Federally Qualified Health Centers (FQHCs) were critical to maintaining access to primary care, and sometimes urgent care, after the local hospital closed. Community stakeholders suggested that, after the hospital closure, FQHCs were often the only remaining entity with the financial and organizational capabilities to recruit primary care physicians into the areas, which can be difficult and expensive.

Among our cohort of 40 recently closed hospitals, we found large declines in all-payer inpatient admissions (across a broad range of service lines) in the years before closure. From 2005 to 2014 (a period that began at least a decade before closure),

the cohort averaged a 54 percent decline in all-payer inpatient admissions. By 2014, the median number of annual all-payer admissions at the 40 hospitals had fallen to 488—about 1.3 admissions per day. Most of this decline was attributable to patients bypassing their local hospital in favor of other hospitals.

In contrast, up to the date of closure, Medicare beneficiaries continued to use these 40 hospitals to access ED and outpatient care. Before closure, the number of ED visits at these hospitals increased over time, and by 2014, these hospitals averaged more than 1,100 Medicare fee-for-service (FFS) ED visits per year. Similarly, the volume of outpatient visits among these hospitals was flat or declined only somewhat over time, and by 2014, these hospitals averaged more than 5,700 Medicare FFS outpatient visits per year.

The effects of these hospital closures on beneficiaries' service use were more difficult to discern. Beneficiaries residing in the market areas of the 40 hospitals that closed experienced faster declines in the number of hospital inpatient admissions and hospital outpatient visits per beneficiary after the closure occurred relative to beneficiaries living in rural areas without a hospital closure. However, even before the closures occurred, use of hospital inpatient and outpatient services was declining faster in the market areas of the hospitals that closed than in markets in other rural areas. Therefore, factors other than hospital closure (such as changes in physician practice patterns before and after closure) may have affected service use for beneficiaries in those communities. In addition, some of the decline in hospital outpatient visits in areas with a closure could represent shifts to other settings, such as freestanding physician offices and FQHCs, rather than beneficiaries forgoing needed care. In that vein, we found that areas with a closure experienced faster growth after the closure occurred in the number of E&M visits across all settings compared with areas without a closure. Regardless of the effect on the use of services, rural hospital closures could require beneficiaries to travel farther to access care, which is especially concerning for emergency care.

Improving Medicare's policies to support rural beneficiaries' access to care

Historically, Medicare's primary response to rural hospital closures has been to create special categories of rural hospitals that receive increased payment rates per service. To maintain eligibility for these special payments, hospitals are required to provide inpatient services. As of 2018, nearly all rural hospitals received higher than standard Medicare rates. Nevertheless, rural hospitals continued to close.

To address the most recent increase in rural hospital closures, some stakeholders have proposed options that would seek to preserve inpatient services. Under one

proposed option, Medicare would further increase payments by expanding the number of hospitals eligible for cost-based reimbursement or boosting payments well above costs (e.g., 115 percent of costs). The Commission has substantial reservations about the expanded use of cost-based reimbursement because it can distort competition, reduce incentives for cost control, benefit wealthier communities, and may not prevent hospital closures. Under another option, a global budget could be set that could preserve the revenue stream of a hospital with declining admissions. CMS is currently testing the use of global budgets for rural hospitals in multiple demonstrations.

Yet another option for addressing access to care in rural areas focuses on preserving access to emergency care rather than maintaining inpatient capacity. In 2018, the Commission recommended that Medicare allow isolated freestanding EDs to bill Medicare and provide such EDs with annual payments to assist with fixed costs. Along these lines, the Congress recently enacted a program that will allow hospitals to convert to “rural emergency hospitals.” These new hospitals will not provide inpatient care but will provide round-the-clock ED care and will be able to furnish other services, such as outpatient services, nursing facility services, and ambulance services. Medicare will pay these new providers a monthly fixed rate, enhanced outpatient rates, and standard rates for other types of care. The program starts on January 1, 2023.

In addition to the newly established rural emergency hospital designation, the Congress recently enacted other provisions designed to increase access to care among rural beneficiaries, including more than doubling Medicare’s payment rate cap for certain rural health clinics. Further, the extent to which policymakers make permanent certain Medicare payment policy changes enacted during the coronavirus public health emergency, most notably those related to telehealth, could affect utilization patterns for rural beneficiaries. Any future analyses of rural communities’ access to care will need to account for these substantial policy changes, which are likely to help maintain or increase access to care for rural beneficiaries.

In response to our congressional mandate, over the next year, the Commission plans to expand our utilization analyses to include information on beneficiaries who are dually eligible for Medicaid and Medicare, have multiple chronic conditions, or reside in a medically underserved area. A final report is due in June 2022. ■

Background

The Commission has a long history of monitoring beneficiaries' access to care. In our June 2012 report to the Congress, we analyzed access to care among rural beneficiaries by comparing their use of services with that of urban beneficiaries (Medicare Payment Advisory Commission 2012). Our analysis found large differences in service use across the nation's geographic regions but few differences between rural and urban beneficiaries' service use within regions. The report included a set of principles established by the Commission to guide expectations and policies with respect to rural access to, quality of, and payment for care (see text box on the June 2012 report, p. 172). The Commission established that:

- Access to care should be equitable for rural and urban beneficiaries. However, equitable access does not mean equal travel times for all services. Small rural communities are expected to have longer travel times to access highly specialized services given the large population base needed to support such services.
- Expectations for quality of care in rural and urban areas should be equal for nonemergency services that rural providers choose to deliver.
- Rural payment adjustments should be empirically justified; targeted toward low-volume, isolated providers; and designed to encourage cost control on the part of providers.

In July 2020, the House Committee on Ways and Means submitted a bipartisan request for the Commission to update its June 2012 report on rural beneficiaries' access to care. The Committee also requested information on beneficiaries who are dually eligible for Medicaid and Medicare, have multiple chronic conditions, or reside in a medically underserved area.¹ Last, the Committee requested that the Commission examine factors and trends that may have impacted rural communities since the 2012 report, such as the expanded use of telemedicine and provider consolidation. The Committee requested an interim report by June 2021 and a final report by June 2022.

In this interim report, we examine access to care by analyzing data from two surveys—the Commission's annual survey of Medicare beneficiaries and CMS's Medicare Current Beneficiary Survey (MCBS). In

addition, we analyze Medicare claims data to examine trends in the use of clinician services, hospital inpatient and outpatient services, skilled nursing facility (SNF) services, and home health services among beneficiaries who reside in rural or urban counties. Not all rural areas are alike, so our analyses divide areas with varying degrees of rurality into several categories to better understand beneficiary characteristics and utilization patterns in these areas (see text box on defining rural and urban counties, p. 173). We then examine one particular trend that could affect beneficiaries' access to care—rural hospital closures. We include a summary of virtual site visits to three rural communities that recently experienced a hospital closure, results from a quantitative analysis of 40 recent hospital closures, and information on Medicare's policies to improve access to care in rural areas.

In addition to access, quality of care in rural areas remains a top priority for the Commission. However, an assessment of rural quality of care is complex (in part due to data challenges related to rural and urban coding differences) and warrants a more complete evaluation than is possible in this report. A directory of rural health quality research is available from a database funded by the Office of Rural Health Policy (<https://ruralhealthresearch.org/topics/quality>).

Rural and urban beneficiaries have similar access to care, although some differences exist

We examined access to care by analyzing data from two surveys—the Commission's annual survey of Medicare beneficiaries and CMS's MCBS—and Medicare claims data. Survey data have the benefit of measuring access directly and are less likely to be affected by issues that can confound the interpretation of claims-based access measures, such as utilization patterns driven by differences in provider practice patterns or Medicare billing rules. However, survey data can be limited by a relatively small number of rural respondents (especially in frontier areas) and somewhat blunt access measures (e.g., a yes/no question about whether someone had trouble accessing care) (Henning-Smith et al. 2019b). By contrast, Medicare claims data, though an indirect access measure, have the advantage of including information from 100 percent of Medicare fee-for-service (FFS) beneficiaries, allowing us to examine trends longitudinally

The Commission's June 2012 report on rural beneficiaries' access to care

In our June 2012 report to the Congress, the Commission analyzed access to care among rural beneficiaries by comparing their use of services with that of urban beneficiaries. The Commission found very little difference between rural and urban beneficiaries' average use of services, but utilization varied substantially across geographic regions of the country. The 2012 report included a set of principles established by the Commission to guide expectations and policies with respect to rural access to, quality of, and payment for care.

The Commission's first principle is that access to care should be equitable for rural and urban beneficiaries. However, equitable access does not mean equal travel times for all services. Small rural communities are expected to have longer travel times to access highly specialized services given the large population base needed to support such services. The Commission examines the volume of services received, as well as beneficiaries' reported satisfaction with access to services, to assess whether access is equitable and results in beneficiaries receiving an equal level of services. Satisfaction can be met by ensuring that rural areas have adequate primary care networks and that rural patients receive referrals for appropriate specialty care when necessary.

The second principle is that expectations for quality of care in rural and urban areas should be equal for nonemergency services that rural providers choose to deliver. That is, if a provider has made a discretionary decision to provide a service, that provider should be held to a common standard of quality for that service, irrespective of whether the service is provided in an urban or rural location. By contrast, emergency services may be subject to different quality standards to account for different levels of staff, patient volume, and technology between urban and rural areas. The

relevant quality benchmark for emergency care should be either a level that is achieved by other small hospitals or expected outcomes given additional transportation time if the small rural hospital no longer offers emergency care.

The third principle is that any special payments to rural providers should be targeted, empirically justified, and designed to encourage efficiency. Providers in rural areas often have a low volume of patients. In some cases, this lack of scale increases costs per unit of service and puts the provider at risk of closure. To maintain access in these cases, Medicare may need to make higher payments to low-volume providers that cannot achieve economies of scale available to urban providers. However, low volume alone is not a sufficient measure to assess whether higher payments are warranted. Medicare should not pay higher rates to two competing low-volume providers in close proximity. These payments may deter small neighboring providers from efficiently consolidating care in one facility, resulting in poorly targeted payments and possibly contributing to poorer outcomes for the types of care where there is a volume–outcome relationship.

To target special payments where warranted, Medicare should direct these payments to providers that are uniquely essential for maintaining access to care in a given community. In addition, the payments need to be structured in a way that is empirically justified and encourages efficient delivery of health care services. Finally, rural payment adjustments should be designed in ways that encourage cost control on the part of providers. While all hospitals have some incentive for cost control (they must keep average costs below average revenue), fixed add-on payments generally have a greater incentive for cost control than cost-based payments. ■

and analyze granular trends regarding how beneficiaries access care. For example, claims data allow us to analyze the types of clinicians beneficiaries use (e.g., primary care vs. specialists), the sites of service where providers

furnish care (e.g., hospital outpatient departments, rural health clinics), where care was delivered (e.g., locally or centralized in urban areas), and how utilization patterns have changed over time. Because of discrepancies in risk

Defining rural and urban counties

In this report, we primarily rely on county-level designations established by the Office of Management and Budget to determine whether a beneficiary or provider is located in a rural or urban area. We consider all metropolitan counties to be urban and all other counties rural. We stratify rural counties by whether they are micropolitan or not; we describe rural counties that are not micropolitan as either adjacent to a metropolitan area (i.e., rural adjacent) or not adjacent to a metropolitan area (i.e., rural nonadjacent) (Table 5-1). (In some analyses with

a limited number of observations, we combine rural adjacent and rural nonadjacent counties into an “other rural” category.)

To supplement our main rural and urban classifications, we also separately analyze frontier counties. Counties are classified as frontier if the population density within that county is six or fewer people per square mile.² These areas are more sparsely populated than most counties and therefore merit careful consideration. ■

**TABLE
5-1**

Definitions of rural and urban counties used in this report

Category			Definition of category
Urban			Urban (i.e., metropolitan) counties contain an urban cluster of 50,000 or more people.
Rural	Rural micropolitan		Rural micropolitan counties contain a cluster of 10,000 to 50,000 people.
	Other rural	Rural adjacent	Rural adjacent counties are adjacent to urban areas and without a city of at least 10,000 people.
		Rural nonadjacent	Rural nonadjacent counties are not adjacent to an urban area and do not have a city with at least 10,000 people.

Note: A rural county is defined as adjacent to an urban area if it physically adjoins one or more metropolitan areas and has at least 2 percent of its employed labor force commuting to central metropolitan counties.

Source: Office of Management and Budget and USDA's Urban Influence Codes.

scores and MCBS data (and in other academic literature) on the relative health of rural beneficiaries, we present unadjusted utilization results throughout this report. (For context, see text box describing beneficiaries' health and demographic characteristics (pp. 174–175).)

The Commission's annual survey and the MCBS both suggest that rural and urban beneficiaries have similar access to care, although some minor differences exist, and those differences may increase as rurality increases. Similarly, our analysis of Medicare claims data indicates rural and urban beneficiaries generally have comparable utilization rates among the types of services we examined—clinician visits, hospital inpatient admissions,

hospital outpatient visits, home health episodes, and skilled nursing facility days. Similar to our 2012 report, we found that utilization varied substantially across the nation's geographic regions, and these differences typically were far larger than those between rural and urban beneficiaries within regions.

Most survey data suggest rural and urban beneficiaries have similar overall satisfaction with access to care

The Commission's annual survey of Medicare beneficiaries suggests that rural and urban beneficiaries have similar ability to access care. Among other questions, the Commission's survey asks respondents whether they

Health and demographic characteristics of rural and urban beneficiaries

To determine the extent to which differences in beneficiary health and demographic characteristics vary systematically across rural and urban areas, we analyzed data from the Medicare Current Beneficiary Survey (MCBS) and supplemented that information with Medicare enrollment and risk score data.³

MCBS data suggest that rural beneficiaries are slightly less healthy than their urban counterparts. For example, in 2018, a higher share of rural beneficiaries reported that their health was “fair” or “poor” compared with urban beneficiaries (Table 5-2). This finding is consistent with other research that found, compared with their urban peers, rural beneficiaries have slightly lower life expectancy and have higher rates of smoking, lung cancer, and obesity (Medicare Payment Advisory Commission 2020, Singh and Siahpush 2014).

One exception to this general finding is that beneficiaries who reside in frontier areas appear slightly healthier than urban beneficiaries. One possible explanation for this exception is that some beneficiaries with substantial health care needs may choose not to live in frontier areas, given the distance they have to travel to access care.

In contrast to the findings based on self-reported health status, we and others have found that rural fee-for-service beneficiaries have lower average risk scores than their urban counterparts (Malone et al. 2020). In theory, lower risk scores among rural beneficiaries

imply that they are healthier than urban beneficiaries. However, we suggest caution when interpreting these data because provider coding behavior could help explain them. Providers in rural areas have fewer financial incentives than urban providers to comprehensively document beneficiaries’ diagnoses in claims data, which form the basis of risk scores. For example, Medicare’s payments to critical access hospitals, which predominantly treat rural beneficiaries, do not increase based on the diagnoses they document because these hospitals are paid on the basis of their costs. In contrast, Medicare’s payments to hospitals operating under the inpatient prospective payment system (primarily urban hospitals) generally increase if they document additional diagnoses.⁴

Risk scores are commonly used to risk adjust data on patients’ use of health care services. Doing so helps identify areas where utilization is high (or low) for reasons other than beneficiaries’ health, which is generally seen as an appropriate reason for utilization to vary. However, the discrepancy between our findings on the relative health of rural beneficiaries based on risk scores and MCBS data (and academic literature) suggests that risk adjusting utilization based on comorbidities from claims or risk scores could produce misleading results. For that reason, we present unadjusted utilization results throughout this report and provide descriptive information regarding the health of rural and urban beneficiaries (Table 5-2). ■

(continued next page)

faced an unwanted delay in accessing care (for routine care or for an injury or illness), whether they did not access a doctor for a medical problem for which they should have, and the extent to which they faced problems getting an appointment with a new primary care provider or specialist physician. In the Commission’s most recent survey, we found no statistically significant differences between rural and urban beneficiaries for these questions. For example, 82 percent of rural beneficiaries reported never having to wait longer than they wanted for an

appointment for illness and injury care compared with 78 percent of urban beneficiaries, a difference that was not statistically significant. (For the full results of the most recent beneficiary survey, see the Commission’s March 2021 report to the Congress.) The Commission has conducted this survey every year for over a decade, and while small transitory differences emerge occasionally, we have not found any substantial or sustained differences in access to care among rural and urban beneficiaries over that time.

Health and demographic characteristics of rural and urban beneficiaries (cont.)

**TABLE
5-2**

Health and demographic characteristics of fee-for-service Medicare beneficiaries by location of residence, 2018

	Urban	Rural micropolitan	Rural adjacent	Rural nonadjacent	Frontier
Characteristics of all FFS beneficiaries with Part A for 12 months in 2018					
Share of Medicare FFS population	80.0%	11.6%	7.0%	1.5%	1.3%
Mean HCC risk score	1.11	1.09	1.08	1.04	0.97
Had a disability	14.5%	17.6%	16.7%	16.3%	11.5%
ESRD	1.1%	0.9%	0.8%	0.6%	0.6%
Age					
64 or younger	14.9%	17.9%	17.0%	16.5%	11.7%
65-74	51.4	48.9	48.9	48.8	53.1
75-84	23.5	23.7	24.5	24.7	25.4
85 or older	10.3	9.5	9.6	10.0	9.7
Responses from MCBS survey sample (n = 14,787)					
Number of respondents	11,096	2,080	1,013	276	322
Race					
White	71.4%	80.7%	85.1%	91.3%	78.9%
Black	10.5	7.6	10.1	1.4	1.2
Hispanic	12.4	4.3	1.2	1.1	12.1
Other	5.7	7.4	3.7	6.2	7.8
Education					
Less than high school	17.3%	20.5%	24.2%	15.0%	16.1%
High school graduate	26.9	32.5	41.1	33.8	30.6
Beyond high school	55.8	47.0	34.8	51.1	53.2
Health status					
Excellent	16.9%	14.4%	11.8%	14.3%	16.7%
Very good	29.5	28.7	26.0	32.9	34.8
Good	30.5	30.1	30.6	30.2	27.0
Fair/Poor	22.6	26.4	31.2	22.2	21.2
Supplemental insurance					
Medicaid	20.1%	20.9%	28.3%	25.7%	14.3%
Medicare only	23.2	26.4	23.6	24.6	26.6
Employer sponsored	26.6	19.8	16.8	18.3	22.4
Medigap/other	30.1	32.8	31.2	31.4	36.7
Other					
Currently working	13.7%	14.4%	8.9%	11.4%	21.8%
Has a usual source of care	93.3	93.0	91.4	93.2	82.3
Live alone	30.3	31.2	35.2	30.6	31.9
Any ADL limitation	27.2	28.8	31.6	22.8	26.1
Arthritis	30.1	33.5	31.5	30.3	22.4
Broken hip	3.9	5.1	4.3	4.4	5.1
Cancer	19.3	19.7	19.5	26.2	17.4
Dementia	2.8	2.6	3.3	2.4	2.8
Depression	26.3	28.6	26.9	27.0	23.3
Diabetes	33.6	33.0	34.7	27.9	30.1

Note: FFS (fee-for-service), HCC (hierarchical condition category), ESRD (end-stage renal disease), MCBS (Medicare Current Beneficiary Survey), ADL (activity of daily living). We restricted this analysis to beneficiaries with 12 months of Part A coverage. Supplemental insurance is determined using a hierarchy of a beneficiary's insurance coverage over the 12-month period. HCC risk scores are normalized. Risk scores are generally above 1.0 because we require 12 months of Medicare enrollment to be included in the table, which excludes newly enrolled beneficiaries (who are relatively healthy on average). Numbers may not sum to totals due to rounding.

Source: MedPAC analysis of CMS's Medicare Current Beneficiary Survey (2018), enrollment data, and risk score data.

Most survey questions from the MCBS also suggest that rural and urban beneficiaries have similar access to care. The Commission's analysis of 2018 MCBS data found no substantive differences between rural and urban beneficiaries for several access measures, including identical rates of satisfaction with care (93 percent), trouble accessing care (7 percent), and forgoing care (7 percent) (Medicare Payment Advisory Commission 2021). These findings are similar to those published by other researchers using 2016 MCBS data (Henning-Smith et al. 2019a).

Despite the preponderance of similarities between rural and urban beneficiaries' access measures, some small differences exist around satisfaction with travel times, and those differences tend to increase as rurality increases. Based on 2018 MCBS data, we found that a higher share of rural beneficiaries was dissatisfied with the ease of getting to the doctor from their home, access to medical care on nights and weekends, and availability of specialist care. For example, the survey data showed that 4 percent of urban beneficiaries were dissatisfied with the ease of getting to the doctor from their home compared with 7 percent to 8 percent for rural micropolitan/rural adjacent/rural nonadjacent beneficiaries, and 10 percent for frontier beneficiaries. Other researchers, using 2016 MCBS data, found that some of the rural-urban differences persisted after adjusting for sociodemographic and health characteristics (Henning-Smith et al. 2021). The higher levels of dissatisfaction among rural beneficiaries, especially as related to accessing specialty care, were partially due to the need to travel farther to access care (see Table 5-6, p. 180).

Rural and urban beneficiaries had similar numbers of primary care evaluation and management encounters but fewer encounters with specialists

To update our 2012 work on rural beneficiaries' access to care, we first examined differences in rural and urban FFS beneficiaries' use of clinician services.⁵ For our 2012 report, the Commission examined ambulatory volume by combining clinician office visits and hospital outpatient department visits. In this updated analysis, we disaggregate ambulatory services into detailed service groups for a more granular view of how access to care varied for rural and urban beneficiaries.

To examine trends in the use of clinician services over time, we focused on evaluation and management (E&M) services in 2010 and 2018. E&M services are some of the

most common services in Medicare, accounting for half of all physician fee schedule spending in 2019 (Medicare Payment Advisory Commission 2020). Examining E&M services can measure entry into the health care system because most beneficiaries receive an E&M service before receiving other services (e.g., an E&M office visit before getting an MRI). E&M services are billed by a variety of clinicians, including primary care physicians and specialists, and occur in a range of settings, such as physician offices, emergency departments (EDs), and nursing facilities.

To measure the use of E&M services, we count the number of beneficiaries' encounters with clinicians. Relying on encounters to measure utilization minimizes differences across payment systems through which Medicare pays for E&M services—the physician fee schedule, the Federally Qualified Health Center (FQHC) prospective payment system, the rural health clinic (RHC) payment system, and critical access hospital (CAH) method II billing.⁶

On a per beneficiary basis, we found that rural beneficiaries had fewer E&M visits than urban beneficiaries after accounting for substantial amounts of regional variation. Rural beneficiaries' lower E&M use was mainly attributable to fewer encounters with specialist physicians. On average, rural beneficiaries traveled substantially farther than urban beneficiaries to access specialist care, which may partially explain the differences in the number of specialist E&M encounters between these groups of beneficiaries.

Rural beneficiaries had fewer E&M encounters than urban beneficiaries

Rural beneficiaries had fewer E&M encounters than urban beneficiaries in both 2010 and 2018. In 2018, urban beneficiaries had an average of 13.4 E&M encounters compared with averages ranging from 9.0 to 11.5 encounters per beneficiary for our various categories of rural beneficiaries (Table 5-3). Despite these differences, the average number of E&M encounters per beneficiary increased over time across all categories of rural and urban beneficiaries. Utilization growth was similar across these categories with the exception of frontier beneficiaries, whose use increased somewhat more slowly over time. For example, from 2010 to 2018, the average number of E&M encounters per urban beneficiary increased by 0.7 (12.7 to 13.4), 0.8 for rural adjacent beneficiaries (10.6 to 11.4), but only 0.2 for frontier beneficiaries (8.8 to 9.0).

**TABLE
5-3**

Rural beneficiaries had fewer E&M encounters with clinicians than urban beneficiaries, but the growth in encounters was similar

Beneficiary residence, by type of county	Number of E&M encounters per beneficiary	
	2010	2018
Range of use (statewide average is the unit of analysis): 5th and 95th percentiles		
States' urban areas (50 states and DC)	9.5–14.9	9.9–15.9
States' rural micropolitan areas (47 states)	8.3–12.7	8.9–13.6
States' rural adjacent areas (44 states)	7.8–12.0	7.9–13.0
States' rural nonadjacent (43 states)	7.5–11.6	7.9–13.8
States' frontier areas (25 states)	7.2–10.6	7.9–11.5
Mean level of use per beneficiary		
Urban (24.1 million beneficiaries)	12.7	13.4
Rural micropolitan (3.7 million beneficiaries)	10.9	11.5
Rural adjacent (1.8 million beneficiaries)	10.6	11.4
Rural nonadjacent (1.2 million beneficiaries)	10.0	10.6
Frontier (0.4 million beneficiaries)	8.8	9.0

Note: E&M (evaluation and management). Metropolitan (urban) counties contain an urban cluster of 50,000 or more people, rural micropolitan counties contain a cluster of 10,000 to 50,000 people, rural adjacent counties are adjacent to urban areas and without a city of at least 10,000 people, rural nonadjacent counties are not adjacent to urban areas and do not have a city with at least 10,000 people, and frontier counties have 6 or fewer people per square mile. Population numbers are from 2018. Only beneficiaries with 12 months of Part B fee-for-service coverage are included; because some beneficiaries have only Part A coverage, we include fewer beneficiaries in this table compared with other tables throughout this report. In the state-level analysis, states were excluded if they did not have a minimum number of Part B fee-for-service beneficiaries in a particular category.

Source: MedPAC analysis of CMS's carrier file, outpatient file, and Master Beneficiary Summary File.

After controlling for substantial variation across states, we found that rural beneficiaries had fewer E&M encounters per beneficiary. The four categories of rural beneficiaries had lower utilization rates than urban beneficiaries in all but a handful of states (data not shown). After accounting for state-level geographic variation, we found that in 2018, relative to urban beneficiaries, rural micropolitan beneficiaries had 8 percent fewer E&M encounters, rural

adjacent beneficiaries had 10 percent fewer encounters, rural nonadjacent beneficiaries had 12 percent fewer encounters, and frontier beneficiaries had 18 percent fewer encounters.⁷ Comparing these results with the national results in Table 5-3 suggests that from a third to just under half of the differences between urban and rural beneficiaries at the national level were due to state-level geographic variation.⁸

Rural beneficiaries rely more on hospitals to access clinician care than do urban beneficiaries

Relative to urban beneficiaries, rural beneficiaries are more dependent on hospitals to access clinician care, and this dependence is growing. In 2018, urban beneficiaries received 29 percent of their evaluation and management (E&M) encounters in hospitals, compared with 34 percent for rural micropolitan beneficiaries, 37 percent for rural

adjacent beneficiaries, 43 percent for rural nonadjacent beneficiaries, and 46 percent for frontier beneficiaries (Table 5-4). From 2010 to 2018, the share of E&M encounters in hospitals increased by 3 percentage points for urban beneficiaries, but the share increased by 7 percentage points to 9 percentage points among rural beneficiaries.⁹ ■

**TABLE
5-4**

Relative to urban beneficiaries, rural beneficiaries received a high and more rapidly growing share of their E&M encounters in hospital-based settings

Beneficiary residence, by type of county	Encounter setting	Number of E&M encounters (in millions)		Average annual growth rate, 2010-2018	Share of E&M encounters in hospital or nonhospital settings (within beneficiary residence location)	
		2010	2018		2010	2018
Urban	Nonhospital	247	262	0.7%	74%	71%
	Hospital	85	105	2.7	26	29
Rural micropolitan	Nonhospital	32	31	-0.2	73	66
	Hospital	12	16	3.9	27	34
Rural adjacent	Nonhospital	15	14	-0.2	70	63
	Hospital	6	9	3.9	30	37
Rural nonadjacent	Nonhospital	8	8	-0.7	66	57
	Hospital	4	6	4.5	34	43
Frontier	Nonhospital	2	2	0.9	62	54
	Hospital	1	2	5.2	38	46

Note: E&M (evaluation and management).

Source: MedPAC analysis of CMS's carrier file, outpatient file, and Master Beneficiary Summary File.

Because frontier areas are more sparsely populated than other rural areas, we further analyzed frontier beneficiaries' utilization patterns to determine whether their use was lower relative to other rural beneficiaries. Frontier beneficiaries are concentrated in a small number of states. In 2018, half of states had no frontier beneficiaries, and over 90 percent of frontier beneficiaries lived in 15 states. Restricting our analysis to only states with frontier beneficiaries, we found that frontier

beneficiaries had 8 percent fewer E&M encounters than rural micropolitan beneficiaries but an equal number of encounters relative to rural adjacent and rural nonadjacent beneficiaries. These results suggest that the differences between frontier beneficiaries and rural adjacent/nonadjacent beneficiaries at the national level are due to state-level geographic variation (e.g., frontier beneficiaries tend to live in low-use states such as Montana and Wyoming).

**TABLE
5-5****Lower E&M utilization among rural beneficiaries was driven by fewer encounters with specialist physicians in 2018****Average number of E&M encounters per beneficiary by specialty of clinician**

Beneficiary residence, by type of county	Specialist physicians	Primary care physicians	Advanced practice registered nurses or physician assistants	Other clinicians	Total
Urban	7.1	3.5	1.8	1.0	13.4
Rural micropolitan	5.1	3.2	2.3	0.9	11.5
Rural adjacent	5.2	3.2	2.2	0.8	11.4
Rural nonadjacent	4.6	2.9	2.3	0.8	10.6
Frontier	3.9	2.2	2.2	0.7	9.0

Note: E&M (evaluation and management). Only beneficiaries with 12 months of Part B fee-for-service coverage were included in this analysis. These figures do not account for "incident to" billing. The "other clinicians" category includes specialties such as psychologists, podiatrists, and licensed clinical social workers. Numbers may not sum to totals due to rounding.

Source: MedPAC analysis of CMS's carrier file, outpatient file, and Master Beneficiary Summary File.

Rural beneficiaries' lower use of E&M services was driven by fewer encounters with specialist physicians

We conducted several additional analyses to explore why rural beneficiaries had fewer E&M encounters than their urban counterparts. We found several differences in the ways rural and urban beneficiaries access clinician care. For example, rural beneficiaries are more reliant on hospitals to access clinician care (see text box). However, the largest driver of differences was the number of visits with specialist physicians.

Rural beneficiaries' lower E&M utilization was mainly attributable to fewer encounters with specialist physicians. In 2018, urban beneficiaries averaged 7.1 E&M encounters per beneficiary with specialist physicians while rural beneficiaries' use ranged from 3.9 to 5.2 encounters per beneficiary (Table 5-5). These differences persisted after accounting for state-level regional variation. For example, rural micropolitan beneficiaries averaged fewer E&M encounters with specialists compared with urban beneficiaries in each of the 47 states with a rural population. After accounting for state-level regional variation, our four categories of rural beneficiaries had between 17 percent and 25 percent fewer E&M encounters with specialist physicians compared with urban beneficiaries (data not shown).

By contrast, rural beneficiaries had a similar number of primary care E&M encounters compared with urban beneficiaries. Nationally, rural beneficiaries averaged 0.3 to 1.3 fewer E&M visits with primary care physicians (Table 5-5). However, rural beneficiaries often had similar or higher numbers of E&M encounters with primary care physicians compared with urban beneficiaries in the same state (data not shown).¹⁰ In addition, rural beneficiaries had more visits with advanced practice registered nurses (APRNs) and physician assistants (PAs), some of which were likely related to primary care.¹¹

An exception to the similar numbers for primary care E&M encounters across geographic areas were the numbers for frontier beneficiaries. Even after accounting for regional variation and the use of APRNs and PAs, we found that frontier beneficiaries had fewer primary care E&M encounters than their urban counterparts. One factor that could partially explain this difference is that frontier beneficiaries appear to be somewhat healthier than urban beneficiaries.

In 2018, the median distance an urban beneficiary traveled for an E&M visit with a specialist was about 9 miles, compared with 26 miles to 58 miles for rural beneficiaries (Table 5-6, p. 180).¹² Differences in how far rural and urban beneficiaries traveled to access

**TABLE
5-6**

Rural beneficiaries traveled substantially farther than urban beneficiaries for E&M visits with specialists in 2018

Median distance (in miles) from beneficiary residence to the location where the service was performed

Beneficiary residence, by type of county	Specialist physicians	Primary care physicians
Urban	9.2	7.1
Rural micropolitan	26.3	9.3
Rural adjacent	34.6	15.6
Rural nonadjacent	42.9	13.2
Frontier	57.8	13.4

Note: E&M (evaluation and management). We used the centroid of the beneficiary ZIP code and the ZIP code where the service was performed to determine how far (in miles) a beneficiary traveled for a particular encounter.

Source: MedPAC analysis of CMS's carrier file, outpatient file, and Master Beneficiary Summary File.

primary care physicians were much smaller, with median travel distances ranging from about 7 miles for urban beneficiaries to almost 16 miles for rural adjacent beneficiaries. While local conditions vary, travel times could be even more similar due to less traffic in rural areas. These findings suggest that rural beneficiaries often accessed primary care locally while traveling substantial distances to access specialist care. The fact that rural beneficiaries traveled farther to access specialist care may partially explain the lower number of specialist visits among rural beneficiaries, as some beneficiaries may have chosen not to visit a specialist, condensed more issues into one visit, or sought care from local primary care providers regarding issues for which urban beneficiaries sought specialist care.

Use of hospital inpatient services was similar among rural and urban beneficiaries, but rural beneficiaries used more hospital outpatient services

In addition to clinician use, we examined beneficiaries' use of hospital inpatient and outpatient services over time. In 2005 and 2018, rural beneficiaries had a similar number of hospital inpatient admissions compared with urban beneficiaries.¹³ However, rural beneficiaries used more hospital outpatient services (e.g., imaging services and hospital-based clinic visits) than urban beneficiaries. This difference likely reflects where rural beneficiaries get their outpatient services rather than the number of

services received. For all hospital services (and especially outpatient services), differences in utilization across geographic regions of the country were far larger than the differences between urban and rural beneficiaries within the same region.

Inpatient use was similar among rural and urban beneficiaries, but variation across geographic regions was substantial

Use of inpatient care by rural and urban beneficiaries was similar in 2005 (the first year of our analysis) and stayed similar through 2018. In 2018, beneficiaries who lived in urban, rural micropolitan, and other rural areas averaged about 0.2 inpatient admissions per beneficiary (Table 5-7). One reason for the minimal difference in inpatient use among rural and urban beneficiaries is that rural beneficiaries receive much of their inpatient care in neighboring urban areas where admission recommendations will be made by the same physicians serving urban beneficiaries (Knudson et al. 2020).

Inpatient use varied substantially across geographic regions of the country, but differences among urban and rural beneficiaries within regions were minimal.¹⁴ For example, in 2018, inpatient use in Hawaii was substantially below the national average for both rural and urban beneficiaries, with rural beneficiaries averaging 0.10 admissions per beneficiary and beneficiaries in the Honolulu metropolitan area averaging 0.11 admissions per beneficiary. By contrast, states such as West Virginia

**TABLE
5-7**

Urban and rural beneficiaries had similar inpatient hospital use, but rural beneficiaries used hospital outpatient departments more

Beneficiary residence, by type of county	Inpatient admissions per beneficiary		Outpatient claims per beneficiary	
	2005	2018	2005	2018
Range of use (MSA/statewide rural area is the unit of analysis): 5th and 95th percentiles				
Urban areas (384 MSAs)	0.19–0.32	0.14–0.25	1.5–5.2	1.7–7.1
Statewide rural areas (47 states)	0.20–0.33	0.15–0.23	2.6–5.5	2.7–7.1
Mean level of use per beneficiary				
Urban (30.3 million beneficiaries)	0.26	0.20	2.8	3.2
Rural micropolitan (4.4 million beneficiaries)	0.28	0.20	3.6	4.5
Rural adjacent (2.6 million beneficiaries)	0.29	0.21	3.8	4.6
Rural nonadjacent (0.6 million beneficiaries)	0.29	0.20	4.4	5.2
Frontier (0.5 million beneficiaries)	0.27	0.18	4.2	4.6

Note: MSA (metropolitan statistical area). Metropolitan (urban) counties contain an urban cluster of 50,000 or more people, rural micropolitan counties contain a cluster of 10,000 to 50,000 people, rural adjacent counties are adjacent to urban areas and without a city of at least 10,000 people, rural nonadjacent counties are not adjacent to an urban area and do not have a city with at least 10,000 people, and frontier counties have 6 or fewer people per square mile. Data are limited to patients who had no months of Medicare Advantage coverage, were not in a Medicare cost plan, and were enrolled in Part A. Data are limited to those alive for 12 months.

Source: MedPAC analysis of the Medicare Provider and Analysis Review file and outpatient file from CMS.

had higher than average inpatient use, but variation within states was minimal. In 2018, rural beneficiaries in West Virginia averaged 0.23 admissions per beneficiary compared with 0.24 admissions per beneficiary in Morgantown, West Virginia.

Rural beneficiaries had higher hospital outpatient use, with substantial variation across geographic regions

In both 2005 and 2018, rural beneficiaries had higher hospital outpatient utilization than urban beneficiaries. Over time, the use of hospital outpatient services increased among all beneficiaries, but the increase was generally faster among rural beneficiaries. For example, from 2005 to 2018, the number of hospital outpatient claims increased by 0.4 claims per urban beneficiary (from 2.8

to 3.2) compared with an increase of about 0.8 per rural beneficiary (Table 5-7).

While rural beneficiaries had higher hospital outpatient use than urban beneficiaries, differences in use across geographic regions of the country were far larger than the differences between urban and rural beneficiaries. For beneficiaries living in 384 urban areas across the country, the average number of outpatient claims per beneficiary ranged from 1.7 claims to 7.1 claims (Table 5-7). For rural beneficiaries, the state-level average number of outpatient claims per beneficiary ranged from 2.7 claims to 7.1. These wide ranges likely reflect differences in where beneficiaries received their care, as opposed to how much care they received.¹⁵ Beneficiaries in some communities may get most imaging, urgent care, and even office visits

**TABLE
5-8**

SNF and home health use was similar in rural and urban areas, but regional variation was substantial

Beneficiary residence, by type of county	Skilled nursing days per beneficiary in 2018	Home health episodes per beneficiary in 2018
Range of use (MSA/statewide rural area is the unit of analysis): 5th and 95th percentiles		
Urban areas (395 MSAs)	0.71–2.04	0.05–0.28
Statewide rural areas (47 states)	0.68–2.14	0.04–0.32
Mean level of use per beneficiary		
Urban (30.3 million beneficiaries)	1.48	0.14
Rural micropolitan (4.4 million beneficiaries)	1.61	0.14
Rural adjacent (2.6 million beneficiaries)	1.71	0.16
Rural nonadjacent (0.6 million beneficiaries)	1.41	0.15
Frontier (0.5 million beneficiaries)	1.20	0.09

Note: SNF (skilled nursing facility), MSA (metropolitan statistical area). Metropolitan (urban) counties contain an urban cluster of 50,000 or more people, rural micropolitan counties contain a cluster of 10,000 to 50,000 people, rural adjacent counties are adjacent to urban areas and without a city of at least 10,000 people, rural nonadjacent counties are not adjacent to an urban area and do not have a city with at least 10,000 people, and frontier counties have 6 or fewer people per square mile. Data are limited to patients who had no months of Medicare Advantage coverage, were not in a Medicare cost plan, and were enrolled in Part A. Data are limited to those alive for 12 months.

Source: MedPAC analysis of CMS's home health standard analytic file and Medicare Provider and Analysis Review file.

at hospital-based outpatient departments, while these services may be more often provided at freestanding imaging centers, urgent care centers, or physician offices in other communities.

Use of skilled nursing facility and home health services was similar for rural and urban beneficiaries

We also examined differences between rural and urban beneficiaries' use of two types of post-acute care—SNF and home health services. We found no evidence of systematic differences in SNF use between rural and urban beneficiaries. In 2018, compared with urban beneficiaries, rural beneficiaries averaged similar or higher SNF use, but frontier beneficiaries had lower use (Table 5-8). Lower SNF use among frontier beneficiaries does not necessarily suggest an access issue; rather, lower use

among these beneficiaries could reflect differences in beneficiary demographics. Relative to urban beneficiaries, we found that a lower share of frontier beneficiaries had a disability (11.5 percent vs. 14.5 percent) and a higher share of frontier beneficiaries remained in the workforce (21.8 percent vs. 13.7 percent) (Table 5-2, p. 175). These findings suggest that a portion of frontier beneficiaries may relocate when they need institutional care, thus leaving frontier areas with a healthier Medicare population needing less SNF care.

Despite no systematic differences in SNF use between rural and urban beneficiaries, we found wide variation in use regionally, regardless of urban-rural location. Across the nearly 400 urban areas we studied, SNF use varied nearly threefold (0.71 days per beneficiary vs. 2.04 days per beneficiary) at the 5th and 95th percentiles (Table 5-8).

We found a similarly wide distribution of SNF use among rural beneficiaries.

For home health care, rural beneficiaries had similar or higher use rates compared with urban beneficiaries (Table 5-8). Beneficiaries residing in frontier areas had lower use than urban or other rural beneficiaries. This difference appears to reflect the fact that frontier beneficiaries are concentrated in relatively low-use states such as Montana, North Dakota, and South Dakota.

Geographic variation in home health use was particularly notable, with utilization rates varying by sixfold to eightfold across regions nationally (Table 5-8). In general, home health use was high in both rural and urban areas of the Gulf states but lower in other parts of the country. For example, in Louisiana, home health use was 147 percent above the national average among rural beneficiaries and 60 percent above the national average among urban beneficiaries. In contrast, home health use was 75 percent below the national average among both rural and urban beneficiaries in Hawaii.

We compared the 2018 service use shown in Table 5-8 with the 2008 service use we reported previously (Medicare Payment Advisory Commission 2012). In 2008, SNF use among urban beneficiaries was slightly higher than among rural beneficiaries. This difference had reversed by 2018, with SNF use slightly higher for rural beneficiaries due to a greater decline in SNF use by urban beneficiaries. From 2008 to 2018, SNF use declined by 0.6 day per urban beneficiary compared with 0.3 day per rural beneficiary.¹⁶ Home health use also declined slightly over the same period among urban beneficiaries (by 0.01 episode per beneficiary). Home health use among rural beneficiaries has not changed since 2008. Changes in SNF and home health use reflect a broader trend in declining institutional care (including hospital care) over the past decade among FFS beneficiaries, the expansion of bundled payment demonstrations and accountable care organizations that encourage lower use of post-acute care (or the use of lower cost settings), patient preferences, and other factors.

Examining causes and effects of rural hospital closures

Data from the University of North Carolina show that the annual number of rural hospital closures increased

after 2013 (Figure 5-1, p. 184).¹⁷ Given the central role hospitals often play in delivering care in rural communities, this trend has the potential to negatively affect beneficiaries' access to care. To study the causes and effects of rural closures, we conducted interviews with stakeholders (including community members, hospital executives, and clinician leaders) from three communities that experienced a recent hospital closure and analyzed a cohort of rural hospitals that closed from 2015 to 2019.

We found that hospital closures were preceded by dramatic declines in inpatient admissions, which was driven by patients increasingly bypassing their local hospitals in favor of more distant hospitals for inpatient care. Despite the loss of inpatient volume, these rural hospitals were important sources of outpatient care, especially emergency department (ED) care, before closure. This suggests that the loss of hospital EDs could have caused larger disruptions in access than the loss of inpatient services.

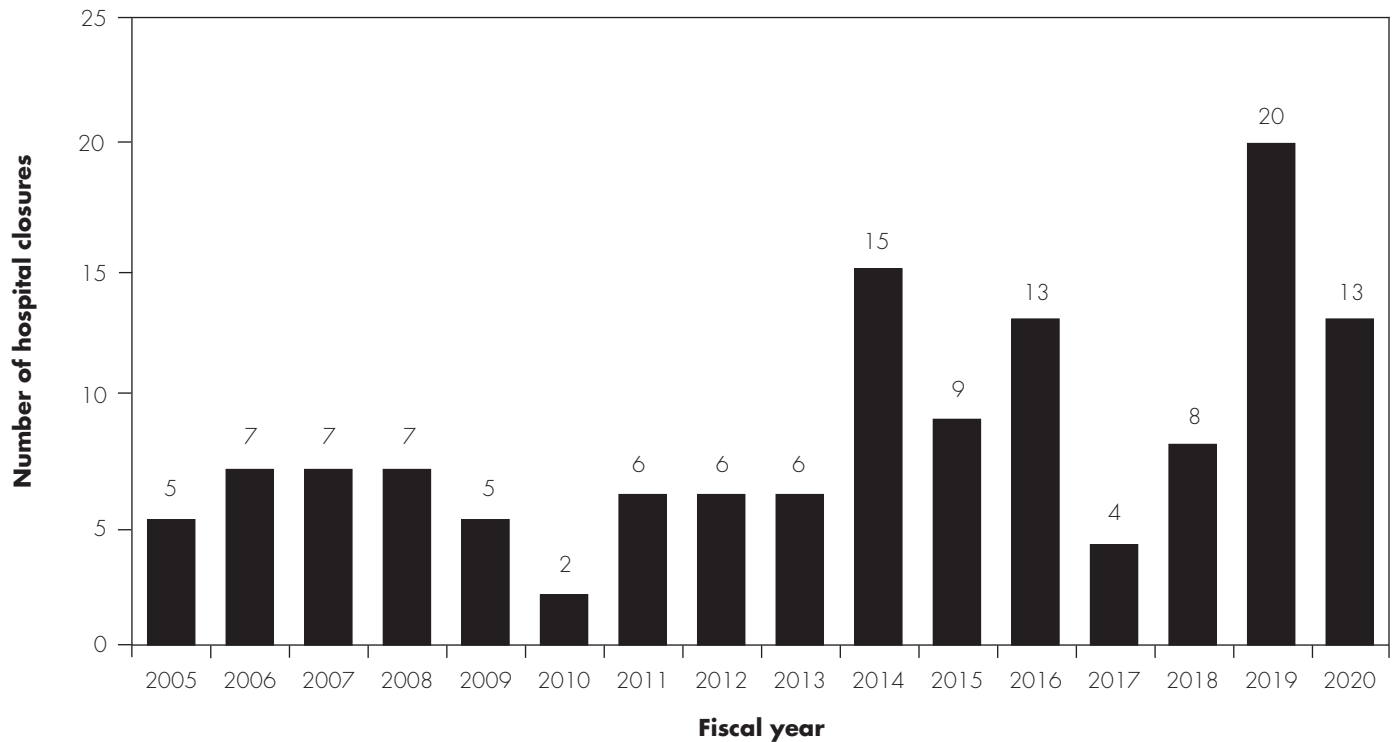
The effect of hospital closures on beneficiaries' service use was more difficult to discern. Areas that had a rural hospital closure experienced faster declines in the number of hospital inpatient admissions and hospital outpatient visits per beneficiary after the closure occurred compared with rural areas without a closure. However, factors other than hospital closures may have affected service use for beneficiaries in those communities. In addition, some of the declines in hospital outpatient visits in areas with a closure could represent shifts to other settings, such as freestanding physician offices and FQHCs, rather than beneficiaries forgoing needed care.

Findings from virtual site visits to communities with a recent hospital closure

We conducted three virtual site visits to rural communities with a recent hospital closure. We selected communities based on geographic diversity and types of service providers that remained after the hospital closed (e.g., freestanding ED, urgent care center). We conducted interviews with several key stakeholders in each town, including hospital executives, city and county government officials, clinician leaders, and emergency medical services (EMS) staff. These interviews focused on assessing the reasons for the closures in these communities and how access to care changed after their local hospital closed. Table 5-9 (p. 185) summarizes some characteristics of the three communities.

**FIGURE
5-1**

The number of rural hospital closures per year increased after 2013



Note: This figure is based on the count of closures as of February 2021 tracked by the Cecil G. Sheps Center for Health Services Research. Closures were aggregated by fiscal year. Closures were excluded from our summary if the hospital was located in a metropolitan statistical area. The annual number of closures could differ at points in time as some hospitals could eventually reopen.

Source: MedPAC analysis of closures among hospitals located in rural counties using data from the Cecil G. Sheps Center for Health Services Research.

Before they closed, hospitals furnished little inpatient care but were a key source of access to emergency care

In each of the three rural communities, the local hospital furnished relatively little inpatient care before it closed. One hospital averaged less than one all-payer admission per day in the years before closure. Executives from all three hospitals reported an average daily inpatient census of one or two patients before closure. Stakeholders suggested that the decline in inpatient admissions was due in part to area residents bypassing their local hospitals in favor of larger, regional hospitals generally located within an hour's drive. Some community members we interviewed expressed concerns about the quality of care provided at their local hospital. Whether real or perceived, these concerns may have driven community members to use other hospitals for needed care. At a community

meeting, one stakeholder asked, "Do you want your gallbladder taken out in a place that does two of them a year?" Hospital and clinician leaders in the community, while more measured, also expressed concerns about the quality of inpatient care furnished in their local hospitals. These leaders noted that, given the low volume of inpatient admissions, competing with larger regional hospitals in terms of the quality of facilities and staff would have been cost prohibitive.

Although inpatient volumes were very low, the three rural hospitals were a key source of access to emergency care before closure. Local leaders in all three communities said that ensuring timely access to emergency care was their first priority after their local hospital closed, although each community approached the problem differently. In one community, clinician leaders were convinced that they needed ED-level care to deal with accidents and

**TABLE
5-9****Characteristics of the Commission's virtual site visit communities**

Hospital or community characteristic	Town A	Town B	Town C
Ownership status	Private, for profit	Private, nonprofit	Private, nonprofit
Critical access designation	Yes	No	Yes
Number of beds	25	25-50	25
Distance to the nearest hospital	25-35 miles	25-35 miles	25-35 miles
Medicaid expansion	No	No	Yes
Rural health clinics	Yes	Yes	No
Services after closure	Primary care practice with attached urgent care center; FQHC expansion	FQHC primary care clinic with urgent care center	24/7 ED with outpatient services, FQHC primary care clinic

Note: FQHC (Federally Qualified Health Center), ED (emergency department).

Source: MedPAC analysis of CMS's Provider of Services file and information gathered during MedPAC site visits.

other trauma cases. The hospital in their community became an outpatient department of a hospital about 30 miles away. On the site of the closed hospital, a new outpatient department operated as an ED and housed other services, including clinician services, imaging, and laboratory services. In another town, community members expressed a desire to open a freestanding ED but said that state law prohibited freestanding EDs, and an inability to bill Medicare as a freestanding ED made such a model financially unviable. In lieu of opening an ED, the FQHC in this community opened an urgent care clinic and hired a board-certified emergency medicine physician to staff it. Leaders in the community acknowledged that this arrangement did not replace an ED, but they expected to be able to treat many low-acuity or mid-acuity patients at the urgent care clinic. In addition, because urgent care clinics are less expensive to operate, the model was financially viable in that community. In the third community, a local physician opened an urgent care clinic adjacent to his existing primary care practice and hired nurse practitioners to help staff the clinic. The physician used the urgent care clinic to triage patients who began coming to his primary care practice after the hospital closed because he was the sole physician in the area. When patients presented at the urgent care clinic with conditions that could not be treated without hospital-level care, the staff worked with local EMS to transport the patients to a neighboring county.

Community members in multiple towns said that the importance of maintaining adequate EMS became heightened after their local hospital closed. In one town, transport times increased considerably after the hospital closed because ambulances had to drive patients to hospital EDs at least 30 miles away. When all ambulances in the county were transporting patients, the EMS staff coordinated with neighboring counties to provide backup service. These arrangements provided an important safety net in one town. However, these arrangements typically involve slower response times (because the ambulances are stationed farther away), which could be detrimental to patients who need immediate care.

FQHCs played a leading role in maintaining access to clinician care after hospitals closed

Before they closed, each of the three hospitals supported access to clinician care in their communities. Two hospitals had provider-based RHCs. In the third community, the hospital hosted clinicians who would practice in the town one or two days a week. After the hospitals closed, the provider-based RHCs closed and other physicians stopped seeing patients in the town.

In each of the three communities, FQHCs were a major (and sometimes the sole) provider of clinician care after the hospitals closed. The FQHC staff we spoke with said their organizations increased access to care in multiple

ways. In one community, the FQHC moved into the facility once occupied by a provider-based RHC and began offering both primary care and urgent care services. In another community, the FQHC colocated with the new outpatient ED to provide primary care services. In two communities, FQHCs are in the process of outfitting buses to serve as mobile patient exam rooms. The buses will be staffed by nurse practitioners and registered nurses and outfitted to furnish office visits and simple diagnostics, such as laboratory tests.

Community leaders we spoke with said that FQHCs were critical to maintaining access to clinician care after their local hospital closed for multiple reasons. First, many new physicians do not want to open their own practice (especially in rural areas); without a local hospital, FQHCs are the only institutions capable of recruiting physicians into the rural communities. Second, FQHCs have the organizational and financial capabilities to recruit physicians. FQHCs can participate in the National Health Service Corps program, which provides student loan repayment that FQHC leaders said was critical to recruiting physicians into rural areas. FQHCs have other financial advantages, such as annual grant funding from the federal government, the ability to participate in the 340B program, and higher Medicare payment rates (relative to standard physician fee schedule rates). According to the FQHC leaders with whom we spoke, these financial advantages are important because, while they were able to hire nurse practitioners and physician assistants without too much difficulty, attracting primary care physicians to rural areas was difficult and expensive. Interviewees consistently said they had to offer primary care physicians substantially higher salaries to practice in rural areas. Across the communities, FQHC leadership reported paying base salaries of \$215,000 to \$250,000 for primary care physicians right out of residency, which they said is at least \$15,000 more than they would offer in comparable urban areas. In addition to higher salaries, FQHC leaders also reported offering additional financial benefits to recruit physicians to rural areas, including loan repayment, relocation bonuses, and paying for moving expenses.

Affiliating with larger hospital systems was not always sufficient to remain open

Our discussions with rural hospital leaders over the past decade suggest that rural hospitals' affiliations with urban systems vary in both their structure and effects on rural providers. Several individuals we interviewed over this

period indicated that the resources and funding provided by an established health system can be beneficial to small, rural hospitals. One of this year's interviewees mentioned that a health system invested millions of dollars to upgrade the local hospital's facilities. In prior years, interviewees have stressed how urban hospitals can help recruit physicians and assist with billing and computer systems. However, two of the three hospitals in the communities we visited were part of larger hospital systems or chains when they closed, suggesting that affiliation by itself is not sufficient to remain open. In one case, the parent hospital system—though financially solvent—decided it would no longer subsidize the financial losses at the smaller hospital. In another case, the parent system's financial difficulties led to the local hospital closing. The mixed results from affiliations ended up matching the mixed opinions rural stakeholders had regarding the affiliations. In the end, the value of affiliation agreements and system ownership of rural hospitals needs to be assessed on a case-by-case basis.

Communities' efforts to maintain hospitals were substantial

In each of the three towns, community members were very engaged in efforts to retain their local hospital. The engagement stemmed from the belief that their communities' health and economic well-being would be detrimentally affected if their local hospital closed. In one community, despite being located in one of the poorest areas of the country, residents twice voted to raise their taxes to provide an annual subsidy to their local hospital. In another community, the state government provided substantial funding to help maintain access to ED services and other outpatient care locally.

Findings on a cohort of recently closed rural hospitals

In addition to conducting virtual site visits, we sought to better understand rural hospital closures by analyzing how changes in utilization patterns can lead to closures. To elucidate this relationship, we examined a cohort of rural hospitals that closed between 2015 and 2019. (For more information about this cohort of hospitals, see the text box, pp. 198–199.)

Among our cohort of 40 recently closed hospitals, we found large declines in inpatient admissions across all payers in the years before closure. Most of this decline was attributable to patients bypassing their local hospital in favor of other hospitals. By 2014, the median number

**TABLE
5-10**

Rapidly declining admissions preceded rural hospital closures, and most of the decline was due to beneficiaries bypassing their local hospitals

Hospital status and location	All-payer inpatient admissions (average per hospital)			Medicare inpatient admissions (average per hospital)			Share of admissions lost due to losing market share (in their primary market)
	2005	2014	Percent change	2005	2014	Percent change	
Hospitals that closed from 2015 to 2019							
Rural micropolitan (13 hospitals)	1,895	938	−51%	865	361	−58%	65%
Other rural (27 hospitals)	1,208	530	−56	696	273	−61	63
Hospitals remaining open through 2019							
Urban (2,504 hospitals)	11,021	10,701	−3	3,947	3,369	−15	Gained market share
Rural micropolitan (747 hospitals)	3,523	2,864	−19	1,689	1,188	−30	22
Other rural (1,023 hospitals)	994	677	−32	561	333	−41	48

Note: "Lost due to losing market share" is the share of the lost Medicare admissions (from the primary market) due to local patients bypassing the local rural hospital for other hospitals. The remaining reduction is due to an overall reduction in inpatient use among fee-for-service beneficiaries in the primary market. Urban hospitals that remained open show a market share gain because they increased market share in their primary market.

Source: MedPAC analysis of Medicare cost report and claims data from CMS.

of annual all-payer admissions at the 40 hospitals fell to 488—about 1.3 admissions per day. By contrast, up to the date of closure, Medicare beneficiaries continued to use these 40 hospitals to access ED and outpatient care, with the number of ED visits at these hospitals slightly increasing over time.

Recent rural hospital closures were preceded by dramatic declines in inpatient volume due to rural beneficiaries bypassing their local hospitals

We found that the 40 hospital closures were preceded by dramatic declines in all-payer and Medicare FFS admissions. From 2005 to 2014, all-payer inpatient admissions at these 40 hospitals fell by a total of 54 percent—51 percent among rural micropolitan hospitals and 56 percent among other rural hospitals (Table 5-10). We observed similar declines in the number of total Medicare FFS admissions.¹⁸ Over the same period,

the population of the counties in which these hospitals were located declined by an average of only 1 percent, suggesting that the loss of inpatient volume was not driven by population changes.¹⁹

Within each of the 40 closed hospitals' primary markets, the decline in Medicare FFS admissions was primarily due to losing market share to competing hospitals. The decline within each hospital's primary market resulted from one of two factors—a shrinking market (i.e., beneficiaries using any hospital less often) or loss of market share (i.e., beneficiaries shifting from using the local hospital to using a competitor). While a shrinking market did contribute to volume declines, we found that about two-thirds of the decline in Medicare admissions was attributable to patients increasingly bypassing their local hospitals in favor of other hospitals for inpatient care. For example, among the rural micropolitan closures, we found that 65 percent of

**TABLE
5-11****The volume of FFS emergency department visits at rural hospitals increased in the years before closure**

Status and location	Average FFS Medicare ED visits per hospital		
	2005	2014	Percent change
Hospitals that closed from 2015 to 2019			
Rural micropolitan (13 hospitals)	1,293	1,455	13%
Other rural (26 hospitals)	1,069	1,116	4
Hospitals remaining open through 2019			
Urban (2,381 hospitals)	3,818	4,998	31
Rural micropolitan (720 hospitals)	2,506	3,125	25
Other rural (1,007 hospitals)	1,129	1,353	20

Note: FFS (fee-for-service), ED (emergency department). Other rural hospitals are located in a county without an urbanized population of 10,000. Numbers may not sum to totals due to rounding. Data are limited to hospitals with complete outpatient claims on 2005 and 2014 cost reports; this restriction eliminated one closed hospital from our analysis.

Source: MedPAC analysis of outpatient file data from CMS.

the decline in Medicare FFS admissions from the primary market was due to a loss of market share (Table 5-10, p. 187). (For more information about volume trends for our cohort of hospitals, see text box, pp. 198–199.)

In contrast to our cohort of closed rural hospitals, urban hospitals that remained open on average gained market share from their primary market as a few competing urban hospitals closed. Urban hospitals also increasingly cared for beneficiaries from rural areas (i.e., some of the market share that rural hospitals lost went to urban hospitals). This change is reflected in the fact that urban hospitals gained market share, while all categories of rural hospitals lost market share (Table 5-10, p. 187).

Because beneficiaries increasingly chose to bypass their local hospitals in favor of competing hospitals, our cohort of 40 hospitals generally had an extremely low number of inpatient admissions immediately before closure. In 2005, we found that the 40 hospitals captured 27 percent of the Medicare admissions among beneficiaries living in their primary markets. By 2014, their market share had fallen to

16 percent (see text box on closed rural hospitals, pp. 198–199). Due to beneficiaries seeking care elsewhere (and lower overall inpatient use), by 2014, the median number of annual all-payer admissions at the 40 hospitals had fallen to 488—about 1.3 admissions per day. Extremely low volume generally increases the costs per admission and creates logistical challenges (e.g., with staffing), which ultimately raises the question of whether hospitals that are used so infrequently are critical for ensuring access to inpatient care.

Use of emergency department services by Medicare FFS beneficiaries increased before closure of rural hospitals, while outpatient visits declined modestly

In contrast to the decline in inpatient admissions, FFS beneficiaries' ED visits increased before closure among our cohort of hospitals. Specifically, from 2005 to 2014, total ED visits by FFS beneficiaries increased 13 percent at the 13 rural micropolitan hospitals and increased 4 percent at 26 other rural hospitals in the cohort (Table 5-11).²⁰

**TABLE
5-12****Hospitals lost a moderate amount of outpatient market share before closure, but often continued to be a material provider of outpatient services**

Status and location	Average Medicare FFS hospital outpatient claims per hospital		
	2005	2014	Percent change
Hospitals that closed from 2015 to 2019			
Rural micropolitan (13 hospitals)	8,807	8,728	-1%
Other rural (26 hospitals)	6,863	5,756	-16
Hospitals remaining open through 2019			
Urban (2,381 hospitals)	35,208	41,818	19
Rural micropolitan (720 hospitals)	21,678	25,204	16
Other rural (1,007 hospitals)	9,281	9,902	7

Note: FFS (fee-for-service). "Other rural" hospitals are in a county without an urbanized population of 10,000. Data are limited to hospitals with complete outpatient claims on 2005 and 2014 cost reports; this restriction eliminated one closure from our analysis.

Source: MedPAC analysis of outpatient file data from CMS.

The increase in Medicare beneficiaries' ED visits among our cohort of hospitals was a product of two offsetting factors—an overall increase in the use of ED visits in the cohort markets and a declining market share captured by the cohort hospitals. For example, in the markets of our 13 rural micropolitan hospitals, the number of Medicare FFS ED visits increased from 2005 to 2014 by about 30 percent (data not shown). However, the local hospital's market share of that demand declined because beneficiaries bypassed their local ED, offsetting 17 percentage points of the gain. The net effect was a 13 percent increase in the number of ED visits furnished by these hospitals to FFS beneficiaries. We found a similar pattern for the 26 other rural hospitals that closed. The fact that ED use was increasing before closure suggests that the loss of the hospital EDs may have caused larger disruptions in access than the loss of inpatient services.

We also examined utilization changes among all hospital outpatient services, a category that includes ED visits, hospital-based office visits, outpatient therapy, and other services. For these services, among our cohort of hospitals,

total Medicare FFS volume declined modestly before closure. From 2005 to 2014, the 13 rural micropolitan hospitals experienced a 1 percent decline in total Medicare FFS outpatient volume, and the 26 other rural hospitals experienced a 16 percent decline (Table 5-12).

Similar to our ED visit findings, the net changes in total Medicare FFS outpatient volume were the product of two partially offsetting effects. For example, from 2005 to 2014, in the markets of our 26 nonmicropolitan rural hospitals, the total number of Medicare FFS outpatient services increased by about 3 percent (data not shown). However, these 26 hospitals captured a 19 percent smaller share of their market's total services. The net effect was a 16 percent decline in the number of Medicare FFS hospital outpatient services furnished by these hospitals (Table 5-12). After these reductions, in 2014, the rural micropolitan and other rural hospitals provided an average of 24 and 16 Medicare FFS outpatient visits per day, respectively. These results suggest that beneficiaries still used these rural hospitals to access outpatient care before they closed.

Hospital closures were associated with but may not have caused declines in hospital use

To analyze the effects of rural hospital closures, we compared changes in hospital service use in 20 markets where a rural hospital closed between 2015 and 2017 with 1,798 rural markets without a hospital closure over that period.²¹ Specifically, for beneficiaries living in either “closure” or “nonclosure” markets, we calculated the change in per beneficiary inpatient admissions and hospital outpatient visits from 2014 (before the closures occurred) to 2018 (after the closures occurred). To account for the fact that beneficiaries who lived in areas with a closure likely increased travel for their care, we included services in our utilization rates regardless of whether they were furnished by local or more distant hospitals. To provide context for the changes in utilization that occurred immediately after the closures, we examined trends in the use of hospital services for a decade before the closures (2005 to 2014) for both our closure and nonclosure markets.

Beneficiaries’ use of hospital services declined faster among those living in markets with a hospital closure compared with beneficiaries in other rural markets. From 2014 to 2018, the number of inpatient admissions per beneficiary among those living in markets with a closure declined by 1.4 percent per year compared with a decrease of 0.8 percent per year among beneficiaries in rural markets without a closure, a difference that was not statistically significant (Table 5-13). (In addition to having rates of change that were not significantly different, the absolute level of inpatient admission per capita in 2018 was equal for beneficiaries living in rural areas with and without a closure.) The difference for hospital outpatient visits was larger and statistically significant. Outpatient visits declined by 0.7 percent per year in markets with a closure compared with an increase of 1.6 percent per year in markets without a closure. Our results are similar to a recent Government Accountability Office (GAO) report, which conducted a similar analysis using a larger number of closures over a slightly different time frame (Government Accountability Office 2020).

These findings suggest that hospital service use may decline when a rural hospital closes. But we cannot conclude the closure caused the decline because service use trends among closure and nonclosure markets differed in the decade before the closures occurred, suggesting that factors other than hospital closures affect service

use. For example, from 2005 to 2014, the number of inpatient admissions per beneficiary fell by an average of 4.3 percent per year in markets that would eventually experience a closure compared with a decline of 3.0 percent per year in markets without a closure (Table 5-13). This difference is not surprising because the decline in hospital use among a region’s population may increase the probability that a hospital closes. In other words, a hospital located in a market where hospital use among residents declined significantly from 2005 to 2014 may have been more likely to close between 2015 and 2017.

Hospital outpatient care likely shifted to other settings after hospitals closed

Some hospital outpatient visits (e.g., clinic visits) shift to other settings after a rural hospital closes. Under Medicare billing rules, services can generate two claims when billed in a hospital outpatient department—one claim for the hospital facility expenses and one claim for the clinicians’ professional services. However, if the same service is performed in a physician’s office, FQHC, or RHC, only one claim is generated. Therefore, if services shift from being performed in hospital outpatient departments to these other settings after a closure, then hospital outpatient volume could be expected to decline while the amount of care provided would stay the same. Therefore, to determine the extent to which some of the declines in hospital outpatient use found in our analysis’s closure markets represented a shift from hospitals to other providers, we examined the change in the number of E&M encounters from 2014 to 2018 for both our closure and nonclosure markets. Our counts of E&M encounters are not sensitive to shifts in sites of care—that is, we count an E&M service as one encounter regardless of where it takes place.²²

In our market analysis, the number of E&M encounters per beneficiary increased faster in the closure markets compared with the nonclosure markets. From 2014 to 2018, the number of E&M encounters per beneficiary grew 2.3 percent per year among beneficiaries in the closure markets compared with 1.7 percent per year among beneficiaries in nonclosure markets (data not shown).²³ Despite some differences in methodology, GAO’s analysis also found that the number of E&M visits increased after rural hospitals closed (Government Accountability Office 2020).

We also examined the type of E&M encounters that drove the higher growth rate among the closure markets. From 2014 to 2018, the number of E&M office visits

**TABLE
5-13**

Closed hospitals tended to be in markets with declining hospital use both before and after closure occurred

Beneficiary residence location	Did the only hospital in the market close between 2015 and 2017?	Average annual percent change in the market's service use per beneficiary in the decade before closure, 2005 to 2014		Average annual percent change in the market's service use per beneficiary just before and after closure, 2014 to 2018	
		Admissions	Outpatient visits	Admissions	Outpatient visits
Rural	Closure (20 hospitals)	-4.3%**	0.3%**	-1.4%	-0.7%*
	No closure (1,798 hospitals)	-3.0%**	1.8%**	-0.8	1.6*

Note: *Indicates that the market with a closed hospital differs from the market without a closed hospital using a T-test at the $p < .05$ level of significance.
 **Indicates that the market with a closed hospital differs from the market without a closed hospital using a T-test at the $p < .01$ level of significance.

Source: MedPAC analysis of CMS's Medicare Provider and Analysis Review File and outpatient file.

per beneficiary grew at a higher average annual rate in closure markets compared with nonclosure markets (1.2 percent vs. 0.6 percent), and the per beneficiary number of E&M encounters at FQHCs grew substantially faster in closure markets compared with nonclosure markets (11.4 percent per year vs. 6.7 percent per year). These findings are consistent with the actions local stakeholders reported taking in response to recent hospital closures in their communities—retaining or expanding outpatient care in their community after the closure by opening an urgent care clinic or new FQHC locations.

In our analysis, not all types of E&M encounters had higher growth rates in the closure markets. From 2014 to 2018, the number of E&M encounters furnished at emergency departments increased modestly in both closure and nonclosure markets, going from 0.73 to 0.74 encounters per beneficiary in closure markets and from 0.63 to 0.65 encounters per beneficiary in nonclosure markets.²⁴

The overall increase in E&M encounters we found in markets that experienced a hospital closure suggests that some of the hospital outpatient volume declines in those markets reflect technical differences in claim generation patterns (e.g., a visit generating only one claim instead of two) rather than beneficiaries forgoing care.²⁵ However, even if the amount of care received by rural beneficiaries does not decrease, rural hospital closures can result in

beneficiaries needing to travel farther to access it, which is especially concerning for emergency care. GAO found that the median distance to access emergency services increased by more than 20 miles after a rural hospital closure (Government Accountability Office 2020).

Improving Medicare's policies to support access to care in rural areas

Hospitals often play a central role in delivering care in rural communities. Therefore, the increasing number of rural hospital closures has the potential to negatively affect beneficiaries' access to care and should be addressed with appropriate, targeted policymaking. Historically, Medicare's primary response to rural hospital closures has been to create special categories of rural hospitals that receive increased per service payment rates. Hospitals can be designated as CAHs, Medicare-dependent hospitals (MDHs), sole community hospitals (SCHs), and low-volume hospitals (Table 5-14, p. 192). To maintain eligibility for these special payment categories, hospitals are required to provide inpatient services. In 2018, over 95 percent of rural hospitals were CAHs, MDHs, or SCHs or qualified as a low-volume hospital and received higher than standard Medicare rates (Centers for Medicare & Medicaid Services 2020a). Nonetheless, rural hospitals continued to close.

**TABLE
5-14****Summary of key programs that increase Medicare payment rates for rural hospitals**

Name and year created	Eligibility requirements	Payment methodology adjustments
Critical access hospital 1997	<ul style="list-style-type: none"> Geographic: meets all of the following requirements: <ul style="list-style-type: none"> Located in rural area or reclassified as rural One of the following: (1) >35 miles from nearest hospital, (2) >15 miles via mountainous or secondary roads, or (3) before 2006, deemed as a necessary provider by the state Size: ≤25 acute inpatient beds 	<ul style="list-style-type: none"> Inpatient services: generally 101 percent of reasonable costs Other services: generally 101 percent of reasonable costs
Medicare-dependent hospital 1989	<ul style="list-style-type: none"> Geographic: located in rural area or reclassified as rural Size: ≤100 beds Other: ≥60 percent of inpatient days or admissions were for Medicare beneficiaries 	<ul style="list-style-type: none"> Inpatient: operating payments based on higher of (1) standard prospective payment or (2) the standard payment plus 75 percent of the amount by which the standard payment is exceeded by the hospital-specific rate based on costs as of 1982, 1987, or 2002
Sole community hospital 1983	<p>Geographic: meets any of the following requirements:</p> <ul style="list-style-type: none"> >35 miles from like hospital (i.e., non-CAH hospital); or located in rural area or reclassified as rural, 25–35 miles from like hospital, and ≤25 percent of residents or Medicare beneficiaries who become inpatients in hospitals' service area are admitted to other like hospitals (or admitting criteria would have been met if not for unavailability of necessary specialty services, and hospital has <50 beds); or located in rural area or reclassified as rural, 15–35 miles from like hospital, and because of topography or weather conditions, like hospitals are inaccessible for at least 30 days in each of two out of three years; or located in rural area or reclassified as rural, ≥45 minutes travel time to nearest like hospital because of distance, posted speed limits, and predictable weather conditions 	<ul style="list-style-type: none"> Inpatient: operating payments based on higher of (1) standard prospective payment or (2) hospital-specific rate based on costs as of 1982, 1987, 1996, or 2006 Other services: 7.1 percent additional payment for outpatient services
Low-volume hospital 2005	<ul style="list-style-type: none"> Geographic: generally >15 miles from nearest traditional (non-CAH) hospital Size: <3,800 all-payer inpatient admissions per year 	<ul style="list-style-type: none"> Inpatient: additional percentage based on number of all-payer admissions, up to a maximum of 25 percent for hospitals with ≤500 admissions

Note: CAH (critical access hospital). CAHs receive 101 percent of costs less a reduction due to the sequester that was in effect until the coronavirus pandemic. Hospitals can also face some losses if beneficiaries fail to pay coinsurance. The Bipartisan Budget Act of 2018 temporarily changed the definition of low volume to include hospitals with up to 3,800 all-payer annual admissions in fiscal years 2019 to 2022. This definition of low volume includes most rural hospitals. In 2023, the definition of low volume is scheduled to revert to a level of 200 admissions per year, which was the level set by CMS before 2011 when CMS had some discretion over setting the low-volume threshold (Centers for Medicare & Medicaid Services 2020a).

Source: Government Accountability Office and CMS.

To address the most recent increase in rural hospital closures, some stakeholders have proposed additional options that would seek to preserve inpatient capacity in rural areas by increasing payments to hospitals, such as by expanding the number of hospitals eligible for cost-based reimbursement or by boosting cost-based payments well

above the level of costs.²⁶ The Commission has substantial reservations regarding the expanded use of cost-based reimbursement because such payment can distort competition, reduce incentives for cost control, benefit wealthier communities, and may not prevent hospital closures.

A second option proposed by stakeholders, and currently being tested by CMS in multiple demonstrations, is the use of global budgets for rural hospitals. Global budgets have operated in Maryland alongside hospital all-payer rate setting and may have achieved some modest success (Haber and Beil 2018, Haber et al. 2018, Roberts et al. 2018). However, Medicare hospital spending in Maryland is still higher than spending in other states. Other global budget models are being tested in Vermont and Pennsylvania (Centers for Medicare & Medicaid Services 2020b). These states differ from Maryland in that they have less developed regulatory structures and no all-payer rate setting. It is too soon to evaluate the success of these models. An analysis of global budget models is beyond the scope of this chapter but may be a subject of future Commission research.

Another option for addressing access to care in rural areas focuses on preserving access to emergency care by allowing rural freestanding EDs to bill Medicare, which the Commission recommended in 2018; the Congress recently enacted legislation that is broadly consistent with our recommendation. In addition, while not directly related to supporting rural hospitals, the Congress also recently enacted other policies designed to improve access to care in rural areas, including more than doubling the cap on Medicare's payment rates for certain types of rural health clinics over the next eight years. Further, the extent to which policymakers make permanent certain Medicare payment policy changes enacted during the coronavirus public health emergency—most notably, those regarding telehealth—could affect utilization patterns for rural beneficiaries. Any future work will need to account for these substantial policy changes, which are likely to help maintain or increase access to care for rural beneficiaries.

Expanding cost-based reimbursement for rural hospitals is not an efficient approach to maintain access to care

Some stakeholders have supported expanding the number of hospitals eligible for cost-based reimbursement or increasing cost-based payments to well above 100 percent of costs (e.g., 115 percent of costs) to prevent rural hospital closures. The goal of expanding cost-based reimbursement is to support hospitals that lack economies of scale and therefore struggle to remain financially viable under prospective payment systems. Under cost-based reimbursement, hospitals' payment rates generally increase as their volume decreases because their fixed costs are spread over fewer cases. However, we highlight

four issues with cost-based reimbursement. First, it does not always prevent hospital closures. Second, it can distort competition. Third, it favors wealthier communities. Fourth, if rates are increased to more than 100 percent of costs, it can materially reduce incentives for cost control.

Cost-based reimbursement does not prevent all closures

Among our cohort of 40 hospitals that closed from 2015 to 2019, 15 were CAHs that Medicare paid on a cost basis. Closures among CAHs reflect the fact that Medicare is one payer in a multipayer system. Because Medicare (and often Medicaid) pays CAHs based on reasonable costs, the CAHs need to obtain enough grant funds and profits on private-pay patients to cover any losses on the uninsured.²⁷ As a result, CAHs in poorer communities with few privately insured patients and more uninsured patients may struggle to remain financially viable.

Cost-based reimbursement can distort competition

Paying hospitals their costs can distort competition. To demonstrate this concept, we compared the average cost-based payment CAHs received for swing-bed services from 2005 to 2014 with the payment rates SNFs received under the SNF prospective payment system.²⁸ We found that CAHs' average cost-based payment increased rapidly over time, among both CAHs that closed and those that remained open, reflecting increased costs as the number of inpatient days declined. By 2014, the CAHs in our analysis all received more than \$2,000 per day for swing bed services (Table 5-15, p. 194). By comparison, Medicare would have paid SNFs less than \$450 per day on average for post-acute care. Even considering potential differences in case mix and the effect of SNF days on hospital cost accounting, these large payment differentials may give hospitals an unfair advantage in attracting rural patients, leading to high Medicare spending for episodes with post-acute care in swing beds.²⁹ Setting Medicare payment rates more equally would allow discharge planning to focus on quality and patient preferences.

Cost-based reimbursement can benefit wealthier communities

CAHs in wealthier communities generally have more privately insured patients and a smaller share of uninsured patients. Therefore, their revenue per patient tends to be higher. As CAHs spend the funds (on things such as higher staff wages and newer facilities) generated from privately insured patients and outside fundraising activities, their

**TABLE
5-15**

**Rapid growth in post-acute care payments can distort competition
and yet not always result in the hospital staying open**

Provider category	Average payment per post-acute swing bed or SNF day		Change in payment rate per day (2005 to 2014)	
	2005	2014	Amount	Average annual change
CAHs that closed between 2015 and 2019 (15 hospitals)	\$1,120	\$2,054	\$934	7.0%
CAHs that remained open (973 hospitals)	1,118	2,206	1,088	7.8
Rural SNFs (2,862 SNFs)	311	423	112	3.5

Note: SNF (skilled nursing facility), CAH (critical access hospital). The analysis is limited to CAHs billing for swing services on a cost basis in 2005 and 2019.

Source: MedPAC analysis of Medicare hospital and SNF cost report data from CMS.

costs increase. Their higher costs lead Medicare, in turn, to pay them higher rates. As a result, wealthier hospitals can often receive higher rates than poorer hospitals. For example, in 2018, CAHs in counties with a median family income over \$60,000 received a median payment per post-acute swing bed day of about \$2,400, while CAHs in counties with a median income under \$40,000 received a median payment per day of about \$1,700. Thus, cost-based reimbursement can direct the highest payment rates to hospitals that can afford the highest costs.

Paying more than 100 percent of costs can distort incentives for cost control

Beyond expanding the number of hospitals eligible for cost-based payments, another commonly discussed alternative is paying hospitals more than the cost of care (e.g., 115 percent of costs). However, allowing Medicare payment rates to increase by more than a dollar for every dollar increase in costs creates an incentive to increase costs. For example, if a hospital had a cost center that was 90 percent Medicare and the program paid 115 percent of costs for patients receiving these types of services, the hospital could increase profits by increasing costs.

Hospitals paid more than their costs would also have a greater incentive to distort charges by increasing charges on services received by Medicare beneficiaries. This behavior would increase their cost-based payments and increase cost sharing paid by Medicare beneficiaries.³⁰ At CAHs, Medicare beneficiaries' coinsurance is set at 20 percent of

outpatient charges—not 20 percent of costs. As a result, rural beneficiaries and their Medigap insurers already pay over half of the cost of outpatient care as cost sharing. In some cases, they pay more than 100 percent of the full cost of care (Briggs et al. 2016). This excess cost sharing can occur if charges are so high that 20 percent of charges is greater than 100 percent of costs. Expanding cost-based payment rates to over 100 percent of estimated costs of treating Medicare patients would increase the incentive to increase the charges on services frequently used by Medicare beneficiaries, which could increase the cost of care borne by beneficiaries and their supplemental insurers.

Supporting access to emergency and hospital outpatient care in rural areas

For decades, rural beneficiaries have increasingly bypassed their local hospitals for inpatient care, and rural hospitals' inpatient volumes have fallen dramatically. As a result, approximately 40 percent of all rural hospitals admitted fewer than one patient per day in 2018. Despite providing little inpatient care, rural beneficiaries continue to rely on these hospitals to access outpatient care, especially ED services. However, Medicare has historically paid a facility for ED services only if it maintained inpatient capacity. As a consequence, small rural communities that want an ED must maintain a low-occupancy inpatient department in the hospital. This requirement can lead to financial losses when inpatient volumes fall too low to cover fixed inpatient costs, potentially risking the solvency of the hospital.

**TABLE
5-16**

**Summary of rural emergency hospital provision
in the Consolidated Appropriations Act, 2021**

Characteristic	Description
Time line	Medicare can begin to pay for rural REH services on January 1, 2023.
Eligible facilities	Facilities eligible to become an REH include those that, as of the date the Consolidated Appropriations Act, 2021, was enacted, were a: <ul style="list-style-type: none"> • CAH or • rural hospital with 50 or fewer beds.
Payment rates	Medicare will make three types of payments to REHs: <ul style="list-style-type: none"> • A monthly fixed payment equal to 1/12 of the average amount CAHs received in 2019 over what the prospective payment systems would have paid for inpatient, outpatient, and skilled nursing facility services under the various prospective payment systems (in 2024 and after, the monthly fixed payment amount will be adjusted based on the hospital market basket) • OPPS rates plus a 5 percent add-on for outpatient services • Standard provider-based payments for other services (e.g., ambulance and post-acute care services)
REH services	<ul style="list-style-type: none"> • REHs cannot furnish hospital inpatient care (a distinct part inpatient skilled nursing facility is allowed). • REH services include ED services, observation care services, and other outpatient services. These services cannot exceed an annual per patient average of 24 hours in REHs. • The REH may operate a provider-based rural health clinic.
Select requirements	REHs will be required to: <ul style="list-style-type: none"> • have an ED that is staffed 24/7; • have a physician, nurse practitioner, clinical nurse specialist, or physician assistant available to furnish rural emergency hospital services 24 hours a day; • have a transfer agreement with a Level I or II trauma center; and • submit certain quality data to CMS.
Other provisions	<ul style="list-style-type: none"> • REHs may revert to their previous status (e.g., to a CAH). • REHs can operate only in states that license such facilities.

Note: REH (rural emergency hospital), CAH (critical access hospital), OPPS (outpatient prospective payment system), ED (emergency department), 24/7 (24 hours per day, 7 days per week).

Source: MedPAC summary of Consolidated Appropriations Act, 2021.

In June 2018, the Commission recommended that Medicare allow isolated stand-alone EDs (more than 35 miles from another ED) to bill standard outpatient prospective payment system (OPPS) facility fees and provide such EDs with annual payments to assist with fixed costs.

In the Consolidated Appropriations Act, 2021, the Congress created a new rural emergency hospital (REH) designation that is broadly consistent with the Commission's 2018 recommendation. Beginning in 2023, certain existing rural hospitals can convert to an REH. These new providers will be prohibited from furnishing

hospital inpatient care but will furnish ED services and can provide other care as well. Medicare will make monthly payments to REHs to help cover fixed costs, pay OPPS rates with a 5 percent add-on for outpatient services, and pay standard provider-based rates for other services. Table 5-16 presents a detailed summary of the new REH designation.

The REH model will allow hospitals to eliminate the costs of maintaining an underutilized inpatient department while providing financial flexibility to furnish outpatient care that the local community desires. Hospitals' decisions on whether to convert to an REH will be influenced by a

number of factors, such as how CMS chooses to calculate the monthly payments REHs are scheduled to receive. The Commission will monitor the implementation of the new REH designation and, as mandated by the Consolidated Appropriations Act, 2021, will report on payments to REHs every year beginning in 2024.

Supporting access to clinician care in rural areas

While not directly related to supporting rural hospitals, the Congress recently enacted other policies designed to improve access to care in rural areas. First, as part of the Consolidated Appropriations Act, 2021, the Congress substantially increased the payment rate cap for RHCs that are freestanding or associated with a hospital with 50 beds or more.³¹ Before enactment, Medicare's payment rate for these RHCs was capped at \$86 in 2020. The new law more than doubles this cap to \$190 by 2028. After 2028, the payment rate cap will increase annually by the Medicare Economic Index (MEI).

As of 2018, most E&M visits among rural beneficiaries were billed through the physician fee schedule (see text box). As the increase to the RHC payment rate cap is phased in over time, rural clinicians may find it increasingly attractive to bill as an RHC rather than under the physician fee schedule. For example, for a midlevel office visit in 2021, the physician fee schedule rate (\$92) is similar to the RHC payment rate cap (\$100).³² However, under current law, physician fee schedule rates will be flat through 2025 (and then increase by less than 1 percent per year thereafter), whereas the RHC payment rate cap is scheduled to increase by more than 10 percent per year until 2028 and increase thereafter by the MEI, which has averaged between 1 percent and 2 percent over the last few years. As a result, by 2028, the physician fee schedule payment rate for a mid-level office visit is projected to be about \$95 compared with the RHC payment rate cap of \$190.

Higher RHC payment rates could be attractive to a wide range of clinicians, especially nurse practitioners (NPs) and PAs. The Congress initially passed the Rural Health Clinic Services Act of 1977 to increase access to primary care in rural areas by allowing NPs and PAs to bill Medicare under the physician fee schedule directly. While NPs and PAs can now bill directly, Medicare pays 85 percent of the physician rate when a service is billed by an NP or PA under the physician fee schedule. Under the RHC payment system, Medicare's payment rate is not reduced if billed by an NP or PA.³³ In some states, NPs are allowed to own their own independent practice and thus will be able to bill for their costs up to the cap of \$190 per visit.

RHCs have traditionally furnished primary care; however, neither statute nor Medicare regulations limit the care furnished at RHCs to only primary care. This flexibility suggests that the higher RHC payment rate caps could be attractive to different types of practices (e.g., urgent care facilities) and physicians with various nonsurgical specialties.³⁴

Other policies enacted during the coronavirus public health emergency could also affect utilization patterns for rural beneficiaries if such policies are made permanent. For example, the Congress and CMS have temporarily expanded coverage of telehealth services, giving providers broad flexibility to furnish telehealth services in a variety of settings (including beneficiaries' homes), allowing audio-only E&M visits, and increasing payment rates for telehealth. Any future analysis will need to account for these substantial policy changes, which are likely to help maintain or increase access to care for rural beneficiaries. ■

Most E&M encounters were billed under the physician fee schedule in 2010 and 2018

Most evaluation and management (E&M) encounters were billed under the physician fee schedule in 2010 and 2018. However, rural beneficiaries' encounters were more likely to be billed outside the fee schedule by Federally Qualified Health Centers, rural health clinics, and critical access hospitals (method II billing). Over time, rural

beneficiaries' E&M encounters were also increasingly billed outside the fee schedule. For example, from 2010 to 2018, the share of rural nonadjacent beneficiaries' E&M encounters billed under the physician fee schedule decreased from 79 percent to 76 percent (Table 5-17). ■

**TABLE
5-17**

Share of E&M encounters by billing pathway, 2010 and 2018

Beneficiary residence location	Billing pathway	E&M encounters (in millions)		Average annual growth rate, 2010-2018	Share of E&M encounters in each billing pathway (within beneficiary residence location)	
		2010	2018		2010	2018
Urban	Physician fee schedule	326	359	1.2%	98%	98%
	RHC	2	2	0.9	1	1
	FQHC	4	6	5.7	1	2
	CAH (method II billing)	<1	1	6.7	<1	<1
Rural micropolitan	Physician fee schedule	41	43	0.8	93	91
	RHC	2	3	2.3	5	5
	FQHC	1	1	6.4	2	3
	CAH (method II billing)	<1	1	8.4	1	1
Rural adjacent	Physician fee schedule	18	19	0.8	85	83
	RHC	2	2	1.4	10	10
	FQHC	1	1	4.7	2	3
	CAH (method II billing)	<1	1	7.7	2	3
Rural nonadjacent	Physician fee schedule	10	11	0.7	79	76
	RHC	2	2	2.0	15	16
	FQHC	<1	1	4.4	3	4
	CAH (method II billing)	<1	1	9.3	2	4
Frontier	Physician fee schedule	2	3	2.1	75	72
	RHC	1	1	2.3	18	17
	FQHC	<1	<1	5.7	3	4
	CAH (method II billing)	<1	<1	12.2	3	6

Note: E&M (evaluation and management), RHC (rural health clinic), FQHC (Federally Qualified Health Center), CAH (critical access hospital). Numbers may not sum to totals due to rounding. "CAH method II billing" refers to situations in which clinicians reassign their billing rights to a CAH. Medicare pays the CAH the standard physician fee schedule rate plus an additional 15 percent add-on for the professional component of the bill. Medicare also pays CAHs their standard cost-based payment for facility costs.

Source: MedPAC analysis of CMS's carrier file, outpatient file, and Master Beneficiary Summary File.

Additional information on our cohort of 40 recently closed rural hospitals

To construct our cohort of the 40 rural hospitals we analyzed in this report, we started with a list of rural hospital closures from 2015 to 2019 that the Commission maintains as part of its annual payment adequacy work. We then excluded hospitals for which we could not identify Medicare claims data. After these exclusions, our final sample comprised 40 rural hospitals.³⁵

To measure utilization changes before closure, we examined total all-payer admissions, total Medicare fee-for-service (FFS) admissions, and Medicare FFS admissions from a hospital's primary market from 2005 to 2014.³⁶ All-payer data provide the broadest view of hospital activity, and Medicare FFS data allow us to examine whether beneficiaries bypassed their local hospital for their inpatient care (because Medicare claims data has information on beneficiaries'

(continued next page)

**TABLE
5-18**

Cohort of rural hospital closures, 2015 to 2019 (continued next page)

Status after closure	Miles to nearest hospital	All-payer admissions			Medicare cases in the hospital's primary market		Medicare market share		Change in Medicare cases due to:	
		2005	2014	Percent change	2005	2014	2005	2014	A shrinking market	Losing market share
Fully closed	13	1,941	782	-60%	729	279	43%	26%	-151	-299
Clinic	14	N/A	N/A	N/A	196	3	13	0	-4	-189
24-hour urgent care*	117	353	51	-86	82	16	49	15	-9	-57
Fully closed	16	1,751	1,035	-41	706	228	24	10	-65	-413
Fully closed	31	1,839	618	-66	1,076	336	59	36	-314	-426
Clinic	15	860	530	-38	499	219	23	16	-125	-155
ED	22	1,109	743	-33	683	266	40	18	-49	-368
Urgent care	18	3,014	1,703	-43	1,667	713	73	51	-453	-501
Clinic	18	1,672	1,038	-38	656	357	22	19	-197	-102
Clinic	24	661	199	-70	362	90	49	21	-67	-205
Urgent care	29	157	133	-15	108	73	6	5	-16	-19
Clinic	32	655	309	-53	367	141	50	32	-98	-128
Fully closed	22	1,096	451	-59	493	145	27	13	-101	-247
Fully closed	18	1,792	777	-57	748	280	35	17	-92	-376
Fully closed	15	311	132	-58	195	84	4	2	-25	-86
Fully closed	18	869	315	-64	351	173	8	6	-78	-100
Fully closed	5	3,553	2,039	-43	1,643	734	23	12	-157	-752
Fully closed	23	689	393	-43	331	185	11	8	-61	-85
Fully closed	20	3,442	624	-82	1,201	275	19	6	-132	-794
Fully closed	20	609	429	-30	364	212	17	15	-102	-50
Fully closed	21	1,685	804	-52	744	328	13	6	-29	-387

Note: ED (emergency department), N/A (not applicable). "Primary market" refers to the ZIP codes from which the hospital obtained at least 80 percent of its admissions during the 2011 to 2014 fiscal years (the five years before closure of any of the hospitals). "Loss in Medicare cases due to a shrinking market" refers to the expected number of admissions lost if the hospital's market share in 2014 was equal to its 2005 market share.

*The urgent care center is open 8 a.m. to 8 p.m., but a provider is on call 24 hours a day and will meet the emergency medical technician at the urgent care center if needed to stabilize and transport patients.

Source: MedPAC analysis of Medicare cost report and claims data from CMS.

Additional information on our cohort of 40 recently closed rural hospitals (cont.)

ZIP code of residence). To evaluate bypass, we first created markets around each hospital in the country. To define the market, we ordered ZIP codes for each hospital according to how many Medicare admissions came from that ZIP code. We then added ZIP codes into the hospital's market until 80 percent of Medicare admissions were accounted for by the "primary market" ZIP codes. For some small hospitals, the primary market may be one ZIP code; for larger hospitals, it may be hundreds of ZIP codes. Once primary markets

were defined, we examined changes in the share of beneficiaries from each hospital's primary market that used the hospital (as well as those who sought care at other hospitals) in the decade before closure. As a comparison, we calculated similar statistics for hospitals that remained open in urban, rural micropolitan, and other rural areas. Table 5-18 contains information for each of the 40 rural hospital closures we studied. ■

**TABLE
5-18**

Cohort of rural hospital closures, 2015 to 2019 (cont.)

Status after closure	Miles to nearest hospital	All-payer admissions			Medicare cases in the hospital's primary market		Medicare market share		Change in Medicare cases due to:	
		2005	2014	Percent change	2005	2014	2005	2014	A shrinking market	Losing market share
Fully closed	17	4,615	2,972	-36	1,242	675	19	14	-275	-292
Skilled nursing	21	42	20	-52	27	18	6	6	-7	-2
ED	29	320	140	-56	177	66	29	18	-47	-64
Fully closed	14	993	340	-66	461	174	11	7	-92	-195
Fully closed	17	1,747	636	-64	921	365	34	26	-334	-222
Fully closed	32	1,297	526	-59	546	266	25	18	-135	-145
ED	19	2,278	1,164	-49	938	525	52	37	-142	-271
Urgent care	22	2,393	1,526	-36	1,252	551	39	29	-396	-305
Fully closed	13	328	283	-14	197	160	25	21	-10	-27
Fully closed	16	133	25	-81	63	21	15	8	-10	-32
Urgent care	28	896	241	-73	526	146	38	18	-97	-283
Fully closed	21	N/A	N/A	N/A	5	40	0	4	-13	48
Urgent care	24	1,746	524	-70	871	295	37	20	-180	-396
Fully closed	27	904	188	-79	442	61	29	8	-54	-327
Fully closed	17	970	406	-58	569	198	13	7	-98	-273
Fully closed	28	4,701	1,470	-69	2,045	838	61	36	-364	-843
Imaging center	12	1,787	1,101	-38	652	310	14	10	-154	-188
Clinic	16	87	39	-55	62	10	5	1	-7	-45
Clinic	26	855	331	-61	568	178	26	16	-162	-228
Median values	20	1,045	488	-56	536	205	24	15	-97	-213
Mean values	23	1,425	659	-54	619	251	27	16	-123	-246

Note: ED (emergency department), N/A (not applicable). "Primary market" refers to the ZIP codes from which the hospital obtained at least 80 percent of its admissions during the 2011 to 2014 fiscal years (the five years before closure of any of the hospitals). "Loss in Medicare cases due to a shrinking market" refers to the expected number of admissions lost if the hospital's market share in 2014 was equal to its 2005 market share.

*The urgent care center is open 8 a.m. to 8 p.m., but a provider is on call 24 hours a day and will meet the emergency medical technician at the urgent care center if needed to stabilize and transport patients.

Source: MedPAC analysis of Medicare cost report and claims data from CMS.

Endnotes

- 1 Medically underserved areas are areas designated by the Health Resources and Services Administration as having too few primary care providers, high infant mortality rates, high rates of poverty, or a large elderly population.
- 2 Our frontier designation is not mutually exclusive from our primary rural and urban categories. We classify counties as urban or as one of our three primary rural categories (micropolitan, rural adjacent to a metropolitan area, or rural nonadjacent to a metropolitan area). In addition, we categorize all counties as frontier or not frontier. In our primary classification scheme, frontier counties are in all three rural categories, and a small number of frontier counties are considered urban.
- 3 The MCBS is a continuous survey of a nationally representative sample of the Medicare population. The MCBS provides information on beneficiaries' health status, access to care, and demographics, among other topics.
- 4 There are other examples of why urban providers have more financial incentives to document beneficiaries' diagnoses. For example, a larger share of urban beneficiaries is enrolled in Medicare Advantage, so to the extent provider coding behavior "spills over" from Medicare Advantage beneficiaries to FFS beneficiaries, urban beneficiaries' risk scores would be artificially higher.
- 5 Our claims analyses in this report include only FFS beneficiaries. We do not include beneficiaries enrolled in Medicare Advantage because encounter data are not sufficiently complete for the types of analyses we conducted.
- 6 FQHCs are safety net providers that operate in both urban and rural areas. Medicare pays FQHCs through a prospective payment system that began in 2014. RHCs largely deliver primary care in rural areas. For freestanding and certain provider-based RHCs, Medicare pays an all-inclusive rate per visit; for other RHCs (in hospitals with fewer than 50 beds), Medicare paid for visits on a cost basis during our study period. For the purposes of this report, we consider all services furnished at FQHCs and RHCs to be E&M services. "CAH method II" billing refers to situations where clinicians reassign their billing rights to a CAH. Medicare pays the CAH the standard physician fee schedule rate plus an additional 15 percent add-on for the professional component of the bill. Medicare also pays CAHs their standard cost-based payment for facility costs.
- 7 To determine the average difference between urban and each category of rural beneficiaries after accounting for state-level geographic variation, we first calculated the percentage utilization differences between urban and rural micropolitan, rural adjacent, rural nonadjacent, and frontier beneficiaries in each state. We then calculated an average difference across all states, weighted by the number of rural micropolitan, rural adjacent, rural nonadjacent, and frontier beneficiaries in each state.
- 8 For example, in 2018, frontier beneficiaries had 33 percent fewer encounters per beneficiary compared with urban beneficiaries (9.0 vs. 13.4). After controlling for state-level geographic variation, the difference was 18 percent, suggesting that 44 percent of the national difference was due to state-level geographic variation (i.e., $1 - (18 \text{ percent} / 33 \text{ percent})$).
- 9 Among rural beneficiaries, the shift toward hospital-based settings occurred across three billing pathways—a steady shift from nonfacility- to facility-based physician fee schedule services, a rapid shift from freestanding to provider-based RHCs, and rapid growth of services billed through CAHs (method II billing).
- 10 For example, at least one of our categories of rural beneficiaries averaged a higher number of E&M encounters with primary care physicians compared with urban beneficiaries in 25 out of the 47 states with a rural population.
- 11 Claims data do not indicate the specialty in which APRNs or PAs practice. Research suggests that about half of nurse practitioners, the most common type of APRN, and less than a third of PAs practice in primary care. The Commission has recommended that Medicare should refine the specialty designations for APRNs and PAs (Medicare Payment Advisory Commission 2019). The share of APRN/PA E&M encounters that are related to primary care is likely higher among rural beneficiaries compared with urban beneficiaries because (1) APRNs/PAs often practice in RHCs and FQHCs; (2) RHCs and FQHCs predominantly furnish primary care; and (3) RHCs and FQHCs disproportionately serve rural beneficiaries.
- 12 We used median travel distances to limit the effect of outliers, including observations for which we believed the beneficiary ZIP code of residence in Medicare's enrollment data did not accurately reflect where beneficiaries lived when a particular encounter occurred (e.g., "snow birds"). We conducted sensitivity analyses that relied on the mean travel distance after trimming the top 1 percent and top 5 percent of

observations in terms of travel distance; the results of these two sensitivity analyses were substantially similar to the results presented in the report.

- 13 For the hospital analyses, we examined data over a longer period (2005 to 2018) than for the clinician analyses (2010 to 2018). We examined a longer time trend for hospitals so that we had enough data to support our closures analysis. We wanted a full decade of data before the first closures to adequately assess how changes in service volume may have led to closure.
- 14 We examined hospital use for FFS beneficiaries who had Part A and were alive for all of 2018 to remove regional differences in mortality and end-of-life spending. As a sensitivity analysis, we ran our analysis again, including decedents, and while inpatient use was higher, we found similar levels of geographic variation.
- 15 A small part of the difference could also be due to how CAHs bill for care. CAHs bill separately for outpatient care and emergency care that occur on the day of an admission (*Medicare Claims Processing Manual* Chapter 3, Section 30.1.1). In contrast, hospitals paid under the inpatient prospective payment system generally do not separately bill for outpatient or emergency care that occurs within three days of admission. Payments for these services are instead bundled into the inpatient stay payment. These different billing patterns are expected to increase rural outpatient billing by less than 0.1 visits per beneficiary.
- 16 The larger decline in SNF use among urban beneficiaries could be at least partially attributable to a greater prevalence of alternative payment models in urban areas, such as the Comprehensive Care for Joint Replacement model.
- 17 The University of North Carolina data follow the convention of the Health and Human Services Office of Inspector General to designate a closed hospital. A closure involves a facility that stopped providing general, short-term, acute inpatient care. A hospital would not be considered closed if it merged with or was sold to another hospital but the physical plant continued to provide inpatient acute care, converted to critical access status, or both closed and reopened during the same calendar year and at the same physical location. A move across town or outside city limits would generally not be considered a closure; reopening in a community 10 to 15 miles away, however, likely would.
- 18 The decline in inpatient admissions was not related to specific service lines but instead occurred across a broad range of services. For each of the seven most common diagnosis related groups at the closed hospitals (pneumonia, heart failure, chronic obstructive pulmonary disease, nutritional and metabolic disorders, esophagitis and digestive disorders, kidney and urinary tract infections, and septicemia), volume declined by between 40 percent and 84 percent from 2005 to 2014.
- 19 Nationwide, rural counties with a hospital experienced no population change on average from 2005 to 2014.
- 20 We excluded one of our 40 closed hospitals from our analyses of ED and hospital outpatient services due to incomplete outpatient claims on 2005 and 2014 cost reports.
- 21 In this analysis, we include only the 20 hospitals that closed from 2015 to 2017 instead of our full cohort of 40 rural hospitals that closed from 2015 to 2019 because we did not have sufficient data at the time of our analysis to examine the effects of closures that occurred in 2018 and 2019.
- 22 Even for services that do not generate two claims when billed in the hospital outpatient setting, the decline in hospital outpatient visits that we and other researchers have found to be correlated with hospital closures may represent a shift in site of service rather than an actual decline in utilization. For example, critical access hospitals furnish a substantial number of outpatient laboratory tests and bill Medicare for these tests as hospital outpatient services (type of bill 85x). If a critical access hospital closes, such laboratory tests are no longer billed through the shuttered hospital (i.e., the number of hospital outpatient visits goes down), but may shift to being billed by independent laboratories under the clinical laboratory fee schedule.
- 23 Some previous research includes only E&M visits billed under the physician fee schedule. Because rural beneficiaries receive a significant minority of their E&M visits in settings that are not paid under the physician fee schedule, our definition of E&M visits in this report is broader. Specifically, we include E&M visits billed under the physician fee schedule and those billed through the payment systems for FQHCs, RHCs, and CAHs (method II billing).
- 24 For this analysis, our results may differ from those of other researchers because we use clinician claims to measure emergency department use. Unless certain adjustments are made, using hospital claims data to measure emergency department use can result in overstating the decline in emergency department use among beneficiaries who lived in areas where a critical access hospital closed. Critical access hospitals are paid separately for emergency department services that result in inpatient admissions, whereas acute care hospitals paid under the inpatient prospective system (IPPS) are not. Therefore, if beneficiaries begin accessing emergency department services at IPPS hospitals after their local critical access hospital closes, the number of hospital emergency department claims could decline while the actual utilization of emergency department services could remain flat.

- 25 A shift in the setting of other services, such as imaging services or diagnostic tests, could also have contributed to the negative volume trends for hospital outpatient services in the closure markets.
- 26 We discuss policy options related to Medicare. Others have proposed policies to support rural hospitals that are not directly related to the Medicare program, such as encouraging states to expand Medicaid. Exploring these options is beyond the scope of this report.
- 27 CAHs may also incur smaller losses on Medicare beneficiaries because of the sequester and unpaid cost sharing among beneficiaries, often referred to as “bad debt.” Medicare currently pays hospitals 65 percent of bad debt.
- 28 We examined swing-bed payments because patient needs in post-acute care are relatively constant over time.
- 29 Adding SNF days to a CAH will result in the fixed costs of the hospital spread over more inpatient days and will result in slightly lower acute care cost reimbursement; however, this revenue offset is small relative to dramatic difference in SNF and CAH payment rates. In addition, the large differential in payment rates between SNFs and CAHs can create issues for rural accountable care organizations (ACOs). ACO physicians may be reluctant to discharge patients to CAHs that are paid over \$2,000 per day for post-acute care. Beneficiaries, however, may prefer to receive post-acute care at their local CAH.
- 30 Hospital costs are estimated by multiplying department level cost-to-charge ratios by the charges for specific services. Therefore, by increasing charges on services that are more commonly used by Medicare beneficiaries (e.g., bone density screening), the hospital could increase estimated costs of serving Medicare beneficiaries.
- 31 As part of this change, the Congress also capped the growth of payment rates for RHCs associated with a hospital with fewer than 50 beds at the Medicare Economic Index (MEI). Historically, the payment rates at these facilities grew much faster than the MEI because payment rates were based on each facility’s costs. In 2018, the average per visit payment rate at these RHCs was about \$200, although payment rates varied substantially given the variability of costs at each facility.
- 32 The physician fee schedule rate is the national rate. The actual rate in a particular rural area will likely be less than \$92 based on adjustments made to reflect differences in practice expense costs across geographic areas. The fee schedule rate and RHC payment rate cap are not precisely comparable because the payment for all services performed in one day are generally bundled into the RHC payment. However, multiple RHC visits in one day are payable under Medicare in certain circumstances (e.g., one visit for a medical issue and another one for a mental health issue), and the RHC payment bundle excludes certain services, such as the technical components of imaging services and clinical laboratory tests.
- 33 In addition, because Medicare has established lower productivity standards for NPs and PAs (relative to physicians) under the RHC payment system, an RHC’s per visit payment rate might be higher if the RHC is staffed by NPs and PAs instead of physicians, especially among low-volume RHCs. When determining an RHC’s payment rate, Medicare divides total allowable costs by the number of visits in a year. If a physician has fewer than 4,200 visits per year, Medicare substitutes 4,200 visits, thereby lowering the payment rate. For NPs and PAs, Medicare sets the minimum number of visits at 2,100.
- 34 Medicare places some restrictions on the type of services RHCs must (or may not) furnish. RHCs cannot be a rehabilitation agency or a facility primarily for the care and treatment of mental diseases (42 CFR 491.2). In addition, RHCs are required to furnish “diagnostic and therapeutic services that are commonly furnished in a physician’s office or at the entry point into the health care delivery system” (42 CFR 491.9).
- 35 Our count of rural hospital closures is lower than the count published by researchers at the University of North Carolina mainly because we exclude hospitals located in rural portions of metropolitan counties. We also exclude hospitals that merged with another hospital within a certain geographic distance, hospitals that closed and then reopened, and hospitals for which we could not identify Medicare claims data in both 2005 and 2014.
- 36 We defined the primary market as the collection of ZIP codes that provided over 80 percent of the hospital’s Medicare admissions from 2011 to 2014.

References

- Briggs, A., M. Toth, and S. Freeman. 2016. *Medicare copayments for critical access hospital outpatient services—Update*. Report prepared by staff from RTI International for the Medicare Payment Advisory Commission. Washington, DC: MedPAC.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020a. Medicare program; hospital inpatient prospective payment systems for acute care hospitals and the long-term care hospital prospective payment system and final policy changes and fiscal year 2021 rates; quality reporting and Medicare and Medicaid Promoting Interoperability Programs requirements for eligible hospitals and critical access hospitals. Final rule. *Federal Register* 85, no. 182 (September 18): 58432–59107.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020b. Pennsylvania Rural Health Model. <https://innovation.cms.gov/initiatives/pa-rural-health-model/>.
- Government Accountability Office. 2020. *Rural hospital closures: Affected residents had reduced access to health care services*. GAO–21–93. Washington, DC: GAO.
- Haber, S., and H. Beil. 2018. Another look at the evidence on hospital global budgets in Maryland: Have they reduced expenditures and use? *Health Affairs* blog. May 14. <https://www.healthaffairs.org/doi/10.1377/hblog20180508.819968/full/>.
- Haber, S., H. Beil, P. Amico, et al. 2018. *Evaluation of the Maryland All-Payer Model: Third annual report*. Report prepared for the Centers for Medicare & Medicaid Services. Prepared for the Centers for Medicare & Medicaid Services. Waltham, MA: RTI International.
- Henning-Smith, C., A. Hernandez, H. Neprash, et al. 2021. Differences by rurality in satisfaction with care among Medicare beneficiaries. *Journal of Rural Health* 37, no. 1 (January): 114–123.
- Henning-Smith, C., A. Hernandez, and M. Lahr. 2019a. *Rural-urban differences in access to and attitudes toward care for Medicare beneficiaries*. Policy brief. Minneapolis, MN: University of Minnesota Rural Health Research Center.
- Henning-Smith, C., A. Hernandez, H. Neprash, et al. 2019b. *Measuring access to care in national surveys: implications for rural health*. Policy brief. Minneapolis, MN: University of Minnesota Rural Health Research Center.
- Knudson, A., S. Popat, W. Hu, et al., Department of Health and Human Services. 2020. *Understanding rural hospital bypass among Medicare fee-for-service (FFS) beneficiaries in 2018*. Data highlight, no. 19. Baltimore, MD: CMS.
- Malone, T., D. Kirk, R. Randolph, et al. 2020. *Association of CMS–HCC risk scores with health care utilization among rural and urban Medicare beneficiaries*. Findings brief. Chapel Hill, NC: North Carolina Rural Health Research Program.
- Medicare Payment Advisory Commission. 2021. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2019. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2012. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Roberts, E. T., J. M. McWilliams, L. A. Hatfield, et al. 2018. Changes in health care use associated with the introduction of hospital global budgets in Maryland. *JAMA Internal Medicine* 178, no. 2 (February 1): 260–268.
- Singh, G. K., and M. Siahpush. 2014. Widening rural-urban disparities in life expectancy, U.S., 1969–2009. *American Journal of Preventative Medicine* 46, no. 2 (February): e19–29.

C H A P T E R

6

**Revising Medicare's
indirect medical education
payments to better reflect
teaching hospitals' costs**

R E C O M M E N D A T I O N

- 6** The Congress should require CMS to transition to empirically justified indirect medical education adjustments to both inpatient and outpatient Medicare payments.

COMMISSIONER VOTES: YES 14 • NO 0 • NOT VOTING 2 • ABSENT 1

Revising Medicare’s indirect medical education payments to better reflect teaching hospitals’ costs

Chapter summary

Medicare supports teaching hospitals through two types of payments: direct and indirect medical education payments. In fiscal year 2019, the roughly 1,100 acute care teaching hospitals received nearly \$4 billion in Medicare direct graduate medical education payments, which help finance the direct costs of residency programs, such as resident stipends, supervisory physician salaries, and administrative overhead expenses. Medicare’s larger form of support to teaching hospitals, indirect medical education (IME) payments, are designed to support teaching hospitals’ higher costs of inpatient care and are implemented through IME adjustments in the inpatient operating and inpatient capital prospective payment systems. In 2019, teaching hospitals received over \$10 billion in IME payments, including \$6.7 billion in IME payments for fee-for-service (FFS) beneficiaries’ inpatient stays—or about 6 percent of teaching hospitals’ total inpatient and outpatient FFS payments—and an additional \$3.4 billion in IME payments for Medicare Advantage beneficiaries’ inpatient stays.

The Commission has noted two key concerns with Medicare’s current IME payment policy. First, IME policy is “inpatient-centric”—that is, it focuses exclusively on teaching hospitals’ additional costs of inpatient services—and does not reflect the range of hospital settings in which residents train and patients receive care. Second, IME payments do not accurately reflect the

In this chapter

- Background
- Concerns about Medicare’s IME policy
- Principles for IME payment reform
- Effects of a revised budget-neutral inpatient and outpatient IME policy
- Recommendation

effect of teaching on patient care costs across settings, resulting in IME payments above teaching hospitals' additional costs for patient care in inpatient settings but below their additional costs for patient care in hospital outpatient settings. Together, these two features of current IME payment policy create financial penalties in the form of lost IME revenue when teaching hospitals safely shift care from inpatient to outpatient settings.

In response to these concerns, the Commission has included the following in its principles for IME reform:

- IME payments should be made for both inpatient and outpatient PPS services;
- IME payment adjustments should be based on hospitals' ratio of residents to patients; and
- Medicare should transition to empirically justified levels of IME payments, such as by maintaining aggregate IME payments equal to current policy until such time that they match empirically justified levels.

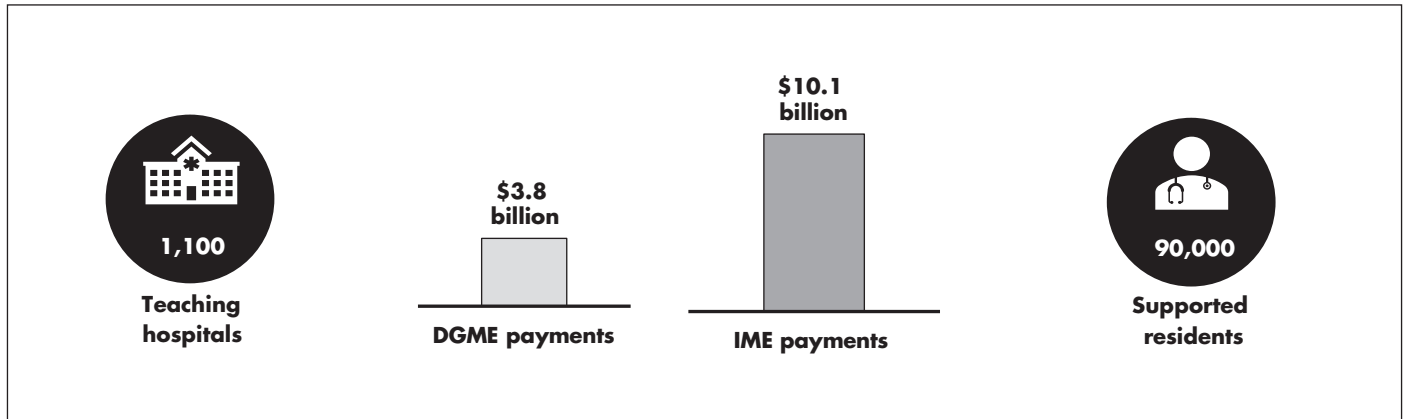
Following the principles above, we modeled a revised budget-neutral inpatient and outpatient IME policy that more accurately reflects teaching hospitals' additional costs. Under the revised IME policy, inpatient and outpatient IME payments would be based on their empirically justified levels and then scaled such that aggregate IME payments equaled those under current policy. The revised policy would result in a small aggregate change in total inpatient and outpatient FFS payments for most teaching hospitals and for most groups of teaching hospitals. However, the revised policy would shift IME payments toward teaching hospitals with additional costs not accounted for in the current policy, including most hospitals that currently treat a larger share of Medicare patients in outpatient settings. Over time, as care continues to shift to outpatient settings, we anticipate that empirically justified IME payments would match and then exceed those under current policy baseline; once that occurs, IME payments could be set at their (higher than current-law) empirically justified levels.

The Commission recommends transitioning to an empirically justified inpatient and outpatient IME policy such as the one we have modeled. A revised IME policy would better align IME payments with the contemporary spectrum of settings in which residents train and patients receive hospital care; reduce the financial penalty of lost IME revenue when teaching hospitals treat Medicare beneficiaries in appropriate outpatient, rather than inpatient, settings; and make IME payments more equitable for teaching hospitals that have shifted—or will shift in the future—to providing more care and resident training in hospital outpatient settings. Moving

forward, it will be important for CMS to monitor the effects of the revised IME policy and collect additional data to support further improvements to the accuracy of IME payments. At the same time, policymakers should continue to work toward broader graduate medical education reforms to support future workforce needs. ■

**FIGURE
6-1**

**Medicare's support to IPPS teaching hospitals
included \$10.1 billion in IME payments in 2019**



Note: IPPS (inpatient prospective payment system), IME (indirect medical education), DGME (direct graduate medical education). "Supported residents" refers to residents counted in the calculation of IME payments. Includes IPPS hospitals with complete cost reports having a midpoint in fiscal year 2019.

Source: MedPAC analysis of Medicare cost report data from CMS.

Background

Medicare supports teaching hospitals through two types of payments: direct and indirect medical education payments (Figure 6-1).¹ In fiscal year 2019, the roughly 1,100 acute care teaching hospitals received \$3.8 billion in Medicare direct graduate medical education (DGME) payments, which help finance the direct costs of residency programs, such as resident stipends, supervisory physician salaries, and administrative overhead expenses. Medicare's larger form of support to teaching hospitals, indirect medical education (IME) payments, totaled \$10.1 billion in 2019 and is designed to support teaching hospitals' higher costs of inpatient care. In contrast to DGME payments, Medicare recognizes hospitals' higher inpatient care costs through adjustments to payments for inpatient hospital services.² These payments to teaching hospitals supported the training of about 90,000 residents, including over \$40,000 per resident in DGME payments and IME payments that averaged about \$1,300 per inpatient stay (or over \$110,000 per resident).³

Medicare's treatment of teaching hospitals' higher patient care costs not otherwise accounted for—and resulting

IME payments—vary across the three fee-for-service (FFS) prospective payment systems (PPSs) for short-term acute care hospitals: the inpatient operating PPS, the inpatient capital PPS, and the hospital outpatient PPS (Table 6-1, p. 212). Both the inpatient operating and inpatient capital PPSs include an IME adjustment whereby base payments to teaching hospitals are increased by a specified percentage. In addition, the Medicare program also makes inpatient operating IME payments for teaching hospitals' care of Medicare Advantage (MA) beneficiaries. In contrast, there is no IME adjustment in the outpatient PPS: Medicare's payments for hospital outpatient services do not vary depending on whether the hospital trains residents.

Of the \$10.1 billion in IME payments that teaching hospitals received in 2019, about \$6.2 billion were from adjustments to inpatient operating PPS payments and \$0.4 billion stemmed from adjustments to inpatient capital PPS payments for FFS beneficiaries' inpatient stays (Table 6-2, p. 212). This collective roughly \$6.7 billion in IME FFS payments was equivalent to about 6 percent of teaching hospitals' total FFS Medicare inpatient and outpatient payments (data not shown). The Medicare program also

**TABLE
6-1****Medicare's treatment of teaching hospitals' indirect costs of medical education varies across the three hospital prospective payment systems**

IME adjustment	Inpatient operating PPS	Inpatient capital PPS	Outpatient PPS
Authority	Specified in statute	Flexibility in statute; added through rulemaking	Flexibility in statute; not added
Measure of teaching intensity	Specified in statute: Resident-to-bed ratio (RBR)	Residents per average daily inpatient census (RADC)	N/A
Percentage add-on to base PPS payments	Specified in statute: $1.35 \times [(1 + \text{RBR})^{0.405} - 1]$ (or 0.66 multiplier for certain residents)	$e^{[0.2822 \times \min(1.5, \text{RADC})]} - 1$	N/A
IME payments for MA beneficiaries	Specified in statute: Medicare program pays (and excluded from MA benchmarks)	Not directly paid by Medicare program	N/A

Note: IME (indirect medical education), PPS (prospective payment system), MA (Medicare Advantage), N/A (not applicable). The measures of teaching intensity are subject to caps.

Source: MedPAC summary of public laws (42 USC §1395ww(d)(5)(B), (d)(11), (g), §1395w-23(k)(4), and §1395l(t)(2)(E)) and regulations (42 CFR §412.105, §412.322, and §422.306(c)).

made \$3.4 billion in inpatient operating IME payments to teaching hospitals for MA beneficiaries' inpatient stays.

The ranges of IME adjustments are similar between the inpatient operating and capital PPSs, but the magnitude varies significantly across teaching hospitals. In 2019, the median IME percentage add-on to teaching hospitals' payment rates for both the inpatient operating and inpatient capital PPSs was about 6 percent. However, there was significant variation around this median value:

The bottom 5 percent of teaching hospitals received an IME adjustment of less than 0.3 percent, and the top 5 percent received an IME adjustment of over 33 percent. Within that distribution, the middle half of teaching hospitals received an IME adjustment of between 2 percent and 15 percent (Figure 6-2). The variation in IME adjustments reflects the wide range in the measures of teaching intensity, including some hospitals with a very large number of residents relative to their inpatient

**TABLE
6-2****Medicare's IME payments, by hospital payment system and type of Medicare beneficiary, 2019**

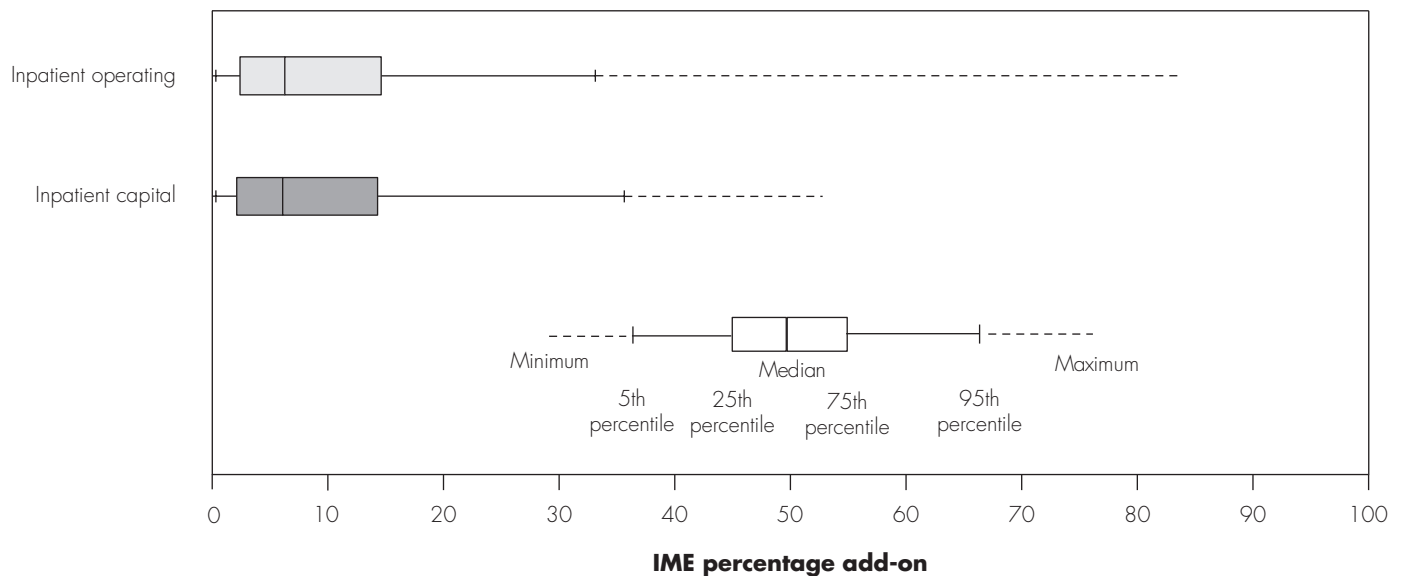
Type of Medicare beneficiary	IME payments (in billions)			
	Inpatient operating PPS	Inpatient capital PPS	Outpatient PPS	Total
Fee-for-service	\$6.2	\$0.4	N/A	\$6.7
Medicare Advantage	3.4	N/A	N/A	3.4
Total	9.6	0.4	N/A	10.1

Note: IME (indirect medical education), PPS (prospective payment system), N/A (not applicable). Includes payments to inpatient PPS hospitals with complete cost reports having a midpoint in fiscal year 2019. The Medicare program does not directly pay inpatient capital IME payments for Medicare Advantage (MA) beneficiaries; however, MA plans can include these payments as part of their contractual agreements with teaching hospitals. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare cost report data from CMS.

**FIGURE
6-2**

IME adjustments to inpatient operating and inpatient capital PPS payments varied significantly across teaching hospitals, 2019



Note: IME (indirect medical education), PPS (prospective payment system). Includes IME adjustments to inpatient PPS hospitals with complete cost reports having a midpoint in fiscal year 2019.

Source: MedPAC analysis of Medicare cost report data from CMS.

beds, or average daily inpatient census.⁴ Teaching hospitals' FFS IME payments as a share of their total inpatient FFS payments had a similarly wide range, composing between 2 percent and 12 percent of inpatient FFS payments among the middle half of teaching hospitals and over 21 percent among the top 5 percent (data not shown).⁵

Concerns about Medicare's IME policy

The Commission has expressed concerns with Medicare's IME policy, including its "inpatient-centric" approach—that is, exclusive focus on teaching hospitals' additional costs of inpatient services—which no longer reflects the range of settings in which residents train and patients receive hospital care, and the level of IME payments made to hospitals under the inpatient prospective payment system (IPPS), which is higher than empirically justified. As a result, Medicare overpays teaching hospitals for their indirect costs of medical education in inpatient settings

and underpays for their costs in outpatient settings, creating financial penalties in the form of lost IME revenue when teaching hospitals safely shift care from inpatient to outpatient settings.

IME policy is inpatient-centric

The Commission has expressed concern that IME policy has remained inpatient-centric and has not evolved to reflect the contemporary spectrum of settings in which residents train and patients receive care.

IME adjustments made to inpatient but not outpatient payments

Under current policy, Medicare makes IME adjustments to payments to teaching hospitals for inpatient services but not for outpatient services. The Congress required an IME adjustment to the inpatient operating PPS, but left discretion to the Secretary on which adjustments to include in the inpatient capital and outpatient PPS.⁶ Although the Health Care Financing Administration (HCFA)—the predecessor of CMS—found a positive and significant relationship between teaching intensity

and outpatient costs among major teaching hospitals, the agency did not implement an IME adjustment to the outpatient PPS when it was established in 2001. HCFA cited several reasons for this decision, including that the issue of payment adjustments should be reexamined using data from the initial years of the implemented payment system, and that the impacts of such adjustments on overall Medicare payments were small because outpatient services accounted for only 10 percent of hospitals' Medicare payments.⁷ Since that initial rule, CMS has stated periodically that it has not found an IME adjustment to the outpatient PPS to be necessary to ensure equitable payments to teaching hospitals and that it does not believe an IME adjustment is appropriate in a budget-neutral outpatient PPS where such changes would result in reduced payments to all other hospitals.⁸ We note that because the level of the inpatient operating IME adjustment is set in statute and higher than empirically justified, in the absence of a corresponding decrease in inpatient IME payments, adding an outpatient IME adjustment would have further increased IME payments relative to empirically justified levels.

While delaying the decision on whether to include an outpatient IME adjustment until additional data under the outpatient PPS was reasonable, IME policy has not evolved to reflect the shift of patient care from inpatient to outpatient settings. In 2019, Medicare's payments for outpatient PPS services had grown to over 25 percent of Medicare's payments to IPPS hospitals, reflecting both a shift in complex surgical procedures from inpatient to outpatient settings and hospitals' acquisition of physician practices.⁹ This shift from inpatient to outpatient PPS services is likely to continue in upcoming years, through changes such as the elimination of Medicare's "inpatient-only" list of services that can only be provided in inpatient settings.

Medicare's measures of teaching intensity—and therefore IME payments—do not depend on where in the hospital the resident trains; but some groups believe that the restriction of payment adjustments to only inpatient services can affect teaching hospitals' decisions on where to train residents.¹⁰ For example, the Institute of Medicine noted that the statutes governing Medicare's graduate medical education payments were developed at a time when hospitals were the central—if not exclusive—site for physician training, and they continue to reflect that era, which could discourage physician training in the clinical settings where most health care is now delivered (Institute of Medicine 2014). The Council on Graduate Medical Education also noted that the focus of health care is shifting away from acute care,

and stated that the inpatient-centric IME payment structure leads hospitals to view residents' care of inpatients as the principal mission of their teaching programs and to view training residents in outpatient settings as less financially beneficial (Council on Graduate Medical Education 2017).

Measure of teaching intensity is inpatient-centric and inconsistent

The measure of teaching intensity that Medicare uses to determine IME adjustments is also inpatient-centric and inconsistent across the two inpatient PPSs. Both the inpatient operating and capital PPSs measure teaching intensity as a ratio of the hospitals' total allowed residents—across all portions of the hospital—to an inpatient-only denominator.¹¹ The inpatient operating PPS measures teaching intensity as a hospital's ratio of residents to inpatient beds; as such, a hospital's calculated measure of teaching intensity depends on its inpatient capacity—regardless of how much of that capacity is used. The different measure of teaching intensity in the inpatient capital PPS—residents per average daily inpatient census—partially addresses this concern but still uses a numerator that counts residents across hospital settings and a denominator that is inpatient-only.

As care has shifted over time toward more outpatient settings, the current inpatient-centric measures have become less accurate measures of hospitals' teaching intensity. For example, the Commission has previously noted that the empirical relationship between hospitals' resident-to-bed ratio and their costs of inpatient care has decreased over time, in part because teaching hospitals have had lower growth in costs than other hospitals, on average (Medicare Payment Advisory Commission 2007b).¹²

IME payments do not accurately reflect teaching hospitals' additional costs

The Commission has also repeatedly expressed concern that IME payments do not accurately reflect teaching hospitals' additional patient care costs and result in overpayments to teaching hospitals for their indirect costs of medical education in inpatient settings.

Inpatient operating PPS IME adjustment is well above empirically justified level

The IME adjustment to the inpatient operating PPS is specified in statute and, though it has been periodically changed through statute over time, remains well above estimates of teaching hospitals' additional inpatient operating costs.

When the Congress originally established the inpatient operating PPS for hospital payments, it specified an IME adjustment that was two times greater than the effect of teaching on inpatient operating costs per case estimated by HCFA.¹³ In doing so, the Congress cited concerns that the new PPS—which at the time had relatively limited adjustments—did not fully account for factors that increased teaching hospitals’ costs of patient care, such as severity of illness of patients requiring the specialized services and treatment programs provided by teaching hospitals, additional tests and procedures ordered by residents, and extra demands placed on other staff as they participate in the education process (U.S. House of Representatives 1983).

Since the enactment of the inpatient operating PPS, the Congress has periodically changed the IME adjustment, but it remains well above more recent estimates of teaching hospitals’ additional inpatient operating costs. The Congress first reduced the IME adjustment in the late 1980s after it added an adjustment to inpatient payments for hospitals that care for a disproportionate share of low-income patients; however, when setting this lower adjustment, the Congress still specified the IME adjustment at two times the updated estimate of teaching hospitals’ additional inpatient costs not otherwise accounted for in the modified inpatient PPS.¹⁴ The Congress periodically changed—generally decreased—the IME adjustment between 1998 and 2008, eventually reducing the multiplicative factor down from 2 to its current level of 1.35.¹⁵

For decades, the Commission has expressed concerns with the level of inpatient IME payments and how they exceed teaching hospitals’ additional costs of inpatient care. For example, using 1999 data, the Commission estimated that the 2003 IME adjustment—which used a multiplicative factor of 1.35—was still twice the empirically justified level (i.e., only 50 percent was empirically justified) (Medicare Payment Advisory Commission 2003).¹⁶ A subsequent analysis by the Commission using 2009 data estimated that the share of inpatient IME payments empirically justified by teaching hospitals’ additional costs of inpatient care had decreased to 40 percent to 45 percent of current levels (Medicare Payment Advisory Commission 2010). While some policymakers have argued that the portion of inpatient IME payments above the empirically justified level is appropriately used to help fund social missions (such as charity care and standby services), there is no requirement that teaching hospitals use IME payments to fund such missions nor is it

possible (with currently collected data) to determine how hospitals use IME payments (Medicare Payment Advisory Commission 2007b).

Inpatient capital IME adjustment is not empirically justified

The IME adjustment to the inpatient capital PPS was not based on the effect of teaching on hospitals’ inpatient *capital* costs. When developing the inpatient capital PPS, HCFA initially determined that an IME adjustment to the inpatient capital PPS was not warranted.¹⁷ However, HFCA ultimately decided to implement an adjustment based on its estimate of the effect of teaching on hospital inpatient capital and operating costs, under the premise that the inpatient operating and capital PPSs would eventually be merged into one system with uniform adjustments.¹⁸

In 2007, CMS stated that, in light of the Commission’s suggestion to seriously reexamine the appropriateness of the current capital IME adjustment, it had extended its analysis and found that the record of relatively high and persistent positive margins for teaching hospitals under the capital IPPS indicated that the teaching adjustment was unnecessary. Accordingly, CMS finalized regulations to reduce the inpatient capital IME adjustment to half of its current level in 2009 and eliminate it altogether starting in fiscal year 2010.¹⁹

However, through a combination of congressional legislation and CMS regulation, the elimination of the inpatient capital IME adjustment was deferred indefinitely.²⁰ As a result, the level of the inpatient capital IME adjustment has not been updated since its implementation and continues to exceed teaching hospitals’ additional capital costs.²¹

No IME adjustment to outpatient PPS

In contrast to Medicare’s IME payments for inpatient care, the lack of an IME adjustment in the outpatient PPS results in underpayments to teaching hospitals for patient care provided in hospital outpatient settings. Teaching hospitals’ unaccounted-for higher outpatient costs contribute to their Medicare outpatient margin being consistently lower than that of nonteaching hospitals, and substantially lower among major teaching hospitals.²²

Medicare does not consistently make IME payments for MA beneficiaries

An additional issue with Medicare’s IME policy is its inconsistent treatment of teaching hospitals’ costs

**TABLE
6-3**

Key design features of the current inpatient-centric IME policy and a revised IME policy that better reflects teaching hospitals' additional costs

Design feature	Current inpatient-centric IME policy	Revised inpatient and outpatient IME policy
<i>Does policy reflect range of settings in which residents train and patients receive care?</i>	No (inpatient-centric)	Yes (inpatient and outpatient)
Services IME adjustment applies to	Inpatient services	Inpatient and outpatient PPS services when teaching hospitals have additional costs
Measure of teaching intensity	Resident per inpatient bed (or per inpatient)	Resident per patient
<i>Does policy reflect teaching hospitals' additional costs not otherwise accounted for in the PPSs?</i>	No (higher than current empirically justified levels for inpatient; zero for outpatient)	Yes
<i>Does policy reflect additional costs of treating FFS and MA beneficiaries?</i>	Inconsistent	Yes

Note: IME (indirect medical education), PPS (prospective payment system), FFS (fee-for-service), MA (Medicare Advantage). The revised inpatient and outpatient IME policy would transition over time to empirically justified payments that reflect teaching hospitals' additional costs not otherwise accounted for in the PPSs.

of caring for MA beneficiaries. When the Congress established the Medicare+Choice program—now known as Medicare Advantage (MA)—it specified that the Medicare program would make inpatient operating IME payments for teaching hospitals' care of MA beneficiaries and carve out these IME (and DGME) payments from MA benchmarks.²³ The Commission supported this decision because it helps teaching hospitals compete with lower cost community hospitals and helps ensure MA plans have incentives to direct enrollees to use teaching hospitals when appropriate (Medicare Payment Advisory Commission 2002). To support the Medicare program's inpatient operating IME payments to teaching hospitals for their care of MA beneficiaries, hospitals are required to submit informational claims for MA beneficiaries' inpatient stays.²⁴ However, because it was not specified in statute, Medicare does *not* make inpatient capital IME payments to hospitals for care provided to MA beneficiaries (and these IME payments are not carved out from MA benchmarks). While the Medicare program does not make inpatient capital IME payments for MA beneficiaries, MA plans may include inpatient capital IME payments as part of their contractual agreements with teaching hospitals.

As care continues to shift from inpatient to outpatient settings and Medicare enrollment continues to shift from FFS to MA, the disconnect between current Medicare IME policy and teaching hospitals' additional costs of caring for Medicare beneficiaries will continue to grow.

Principles for IME payment reform

Responding to the concerns with current Medicare IME policy, the Commission has identified three key design features that should be changed under a revised IME policy (Table 6-3). The corresponding principles for IME payment reform discussed in the subsequent sections are consistent with the Commission's broader advocacy for site-neutral payment policies: Medicare's payment policy should not provide incentives for teaching hospitals to provide services in an inpatient setting when they could be safely provided at a lower cost in an outpatient setting. (Paying more for services provided by teaching hospitals does not go against this principle because Medicare is essentially buying two services: the medical service to the patient—which may be more expensive at teaching hospitals in ways not captured in the PPSs—and the training of residents.)

IME policy should reflect the range of hospital settings in which residents train and patients receive care

One key step to improve the accuracy of IME payments is to revise IME policy to better reflect the range of hospital settings in which teaching hospitals train residents and patients receive care. Such revisions include the following:

- ***Medicare should make IME payments for both inpatient and outpatient PPS services when teaching hospitals incur additional costs.*** Under current IME policy, teaching hospitals receive IME payments only for inpatient services, even though they may incur additional costs related to teaching when providing outpatient services. For example, the costs of both inpatient and outpatient service bundles could be higher at teaching hospitals due to unmeasured differences in patient severity, additional tests and procedures ordered by residents, and extra demands placed on other staff as they participate in the education process. However, these criteria do not necessarily hold for all items, services, and locations. To increase the accuracy of the IME payments and to minimize potential adverse incentives, Medicare should make IME payments only when teaching hospitals have additional patient care costs that are not accounted for in the current PPSs.
- ***Medicare should not make IME payment adjustments for separately payable drugs and devices.*** The costs of inputs paid separately outside of the PPS, such as separately payable Part B drugs and devices, do not have a relationship to patient severity or the presence of residents.²⁵ Excluding IME payments for these separately payable inputs would avoid creating adverse incentives, such as moving drug administration to teaching hospitals.
- ***Medicare should make IME payment adjustments only for services provided in a location where residents train.*** The costs of patient care in off-campus hospital outpatient departments are unlikely to be affected by whether the location is owned by a teaching hospital, unless residents train at that location. Limiting the IME adjustment to locations where residents train would also create incentives for hospitals to expand their residency training to include the range of outpatient locations in which the hospital treats patients.

- ***Medicare should base IME payment adjustments on a hospital's ratio of residents to patients.*** Under current IME policy, the measure of teaching intensity varies across the inpatient operating and inpatient capital PPSs; however, in both cases the numerator includes residents—including time spent in both inpatient and outpatient settings—while the denominator is inpatient-centric (either inpatient beds or average inpatient daily census). Switching to a resident-to-patient ratio measure of teaching intensity, where the numerator and denominator both reflect the range of hospital settings in which teaching hospitals train residents and patients receive care, would better reflect hospitals' teaching intensity. In addition, the use of a resident-to-patient ratio in setting hospitals' IME adjustment avoids creating an adverse incentive for hospitals to acquire physician practices because doing so would simultaneously increase the set of services for which IME payments are made (by increasing Medicare outpatient services) and decrease the magnitude of the IME adjustment for all services (as the additional patients decrease the hospital's resident-to-patient ratio).²⁶

IME policy should transition to empirically justified payments

A second key step to improve the accuracy of IME payments is to transition to empirically justified levels of inpatient and outpatient IME payments. The Commission has long believed that an IME adjustment should be based on an empirically derived estimate of the relationship between teaching and Medicare cost per case, using the most recent data available (Prospective Payment Assessment Commission 1989). However, under current policy, the inpatient IME adjustments are based on historical data and remain well above the current empirically justified levels; at the same time, the lack of an outpatient IME adjustment results in payments lower than teaching hospitals' additional costs of outpatient care. Re-estimating the extent to which hospitals' teaching intensity is associated with additional costs not otherwise accounted for under the hospital PPSs and transitioning to these empirically justified levels would dramatically improve the accuracy of IME payments.

The transition to empirically justified IME payments should be constructed to minimize any adverse effects on teaching hospitals. For example, aggregate IME payments could initially be made budget neutral to those under current policy by applying a budget-neutrality adjustment

to empirically justified inpatient and outpatient IME payments; over time, as outpatient services continue to increase and empirically justified IME payments match and then exceed those under current policy baseline, IME payments could be set at their (higher than current-law) empirically justified levels. Such a transition would initially maintain—and eventually increase—Medicare’s support to teaching hospitals. In addition, maintaining budget neutrality to the level of aggregate IME payments under current law but allowing these to shift among the inpatient and outpatient PPSs would also avoid materially affecting inpatient or outpatient payments to nonteaching hospitals and would therefore address CMS’s concern about adding an IME adjustment to the outpatient PPS in a manner that maintains aggregated outpatient PPS payments.

Teaching hospitals should receive equal IME support for care of FFS and MA beneficiaries

A final step in improving the accuracy of IME payments would be for Medicare to provide equal support to teaching hospitals for their care of FFS and MA beneficiaries. Under current IME policy, Medicare makes inpatient operating (but not inpatient capital) IME payments to hospitals for their care of MA patients, calculated using information claims on MA inpatient services that hospitals are required to submit. To help ensure that MA plans have incentives to direct enrollees to use teaching hospitals when appropriate and that teaching hospitals receive equal IME support for their care of FFS and MA beneficiaries in all hospital settings, the Medicare program should consistently make IME payments for care provided to MA beneficiaries (and remove these payments from MA benchmarks).

Effects of a revised budget-neutral inpatient and outpatient IME policy

For the purposes of illustration, we modeled a revised budget-neutral inpatient and outpatient PPS IME policy consistent with the principles noted earlier. (See text box, pp. 230–231, for methodological details.) We found:

- IME payments would be redistributed toward outpatient care;
- the empirical effect of teaching on hospitals’ patient care costs is less than current policy for inpatient

operating costs, not significant for inpatient capital costs, and largest for outpatient costs;

- the majority of teaching hospitals would experience a small change in total FFS payments as a result of the revised IME policy; and
- IME payments would shift toward teaching hospitals with additional costs not accounted for under the current inpatient-centric policy, including most that treat a larger share of their Medicare patients in outpatient settings, as well as all that will in the future.

Illustrative examples of IME payments under current IME policy and under the revised IME policy we modeled are included in the text box.

We estimated the effects of the revised IME policy in a single year (2019) in which the policy was budget neutral and assumed no behavioral response; the longer-term effects of a revised IME policy are less certain. However, over time, as care continues to shift to outpatient settings, we anticipate that empirically justified IME payments would match and then exceed those under current policy baseline; once that occurs, IME payments could be set at their (higher than current-law) empirically justified levels.

Revised IME policy would redistribute payments toward outpatient care

Under a revised budget-neutral inpatient and outpatient IME policy, aggregate IME payments would equal those under current policy, but would be redistributed toward outpatient care settings. According to results from our modeling, 2019 IME payments would have gone from being solely for care provided in inpatient settings under current policy to split roughly evenly between care provided under the inpatient and outpatient PPSs—the same split as under a fully empirically justified policy (Figure 6-3, p. 222).

This relatively even distribution of IME payments between inpatient and outpatient PPS settings under the revised policy reflects two factors that roughly offset each other:

- **Medicare’s inpatient payments are nearly twice outpatient payments.** In 2019, Medicare’s inpatient operating base PPS payments to IPPS teaching hospitals for the care of FFS beneficiaries totaled \$53 billion, nearly twice the roughly \$29 billion in base outpatient PPS payments (exclusive of separately

Illustrative examples of IME payments under current and modeled revised IME policy

To demonstrate how indirect medical education (IME) payments are calculated under current policy and under the revised budget-neutral inpatient and outpatient policy we modeled, we present details for three example teaching hospitals (Table 6-4, pp. 220–221).²⁷

- **Hospital A**—which has values near the median teaching hospital—would receive a small increase in IME payments under the revised policy. Under current policy, the hospital would receive \$2.4 million in IME fee-for-service (FFS) payments, all for inpatient services. Under the revised policy, which adds an IME adjustment for outpatient services (and removes the IME adjustment in the inpatient capital prospective payment system

(PPS)), the set of base payments for IME-eligible services provided to Medicare FFS beneficiaries would increase 50 percent (from \$38 million to \$57 million). At the same time, the hospital's calculated teaching intensity would decrease 29 percent, from the primary resident-to-bed ratio under the current policy of 0.12 (30 residents per 250 beds) to 0.09 (30 residents per 350 patients). As a result of these two changes and the revised IME adjustment formulas, which are based on their empirical levels times a budget-neutrality adjustment, the new \$1.3 million in outpatient IME payments under the revised policy would slightly exceed the decrease in inpatient IME payments (from \$2.4 million to \$1.2 million). The net result is that the hospital would receive a 4 percent increase in IME payments, and

(continued next page)

payable drugs and devices). We assumed the same relationship held for teaching hospitals' care of MA beneficiaries.

- **The outpatient IME adjustment percentage is nearly twice the inpatient adjustment.** We estimated that the empirically justified IME adjustment in the outpatient PPS is nearly twice that in the inpatient operating PPS and that an IME adjustment to the inpatient capital PPS is not warranted (see text box on the effects of teaching on costs, p. 225). Under the revised budget-neutral policy, the IME adjustments would initially be higher than empirically justified levels, but the IME adjustment to the inpatient operating PPS would remain well below current policy for most hospitals (Figure 6-4, p. 223).

Revised IME policy would result in a small change in total FFS payments for most teaching hospitals

For the majority of teaching hospitals, a revised budget-neutral inpatient and outpatient IME policy would result in a small change in total FFS payments. We estimate that the

revised IME policy would result in a negligible change in total inpatient and outpatient FFS payments for the median teaching hospital, a less than 0.5 percent change for the majority of teaching hospitals, and a less than 1 percent change for nearly three-quarters of teaching hospitals (Figure 6-5, p. 224). This estimate reflects two results: (1) For many teaching hospitals, the decrease in inpatient IME payments would be roughly offset by the addition of outpatient IME payments under the revised policy, and (2) among the subset of hospitals that would experience larger percentage changes in IME payments, IME payments tended to constitute a smaller share of their total FFS payments.²⁸

Because the small subset of teaching hospitals that would be more substantially affected were relatively evenly distributed across different groups of teaching hospitals, for most groups of teaching hospitals the budget-neutral inpatient and outpatient IME policy would result in a small change in aggregate total FFS payments. In particular, we estimated that aggregate total (inpatient and outpatient) FFS payments would change by less than 0.2 percent among for-profit, nonprofit, and government-owned teaching hospitals; teaching hospitals in urban and rural

Illustrative examples of IME payments under current and modeled revised IME policy (cont.)

**TABLE
6-4**

Illustrative examples of IME FFS payment calculations under current and modeled revised IME policy

	Hospital A (values near median)	Hospital B (same characteristics as A, except more Medicare outpatients)	Hospital C (same characteristics as A, except more non-Medicare outpatients)
Hospital characteristics			
Residents (Medicare allowed)	30	30	30
Inpatient beds	250	250	250
All-payer patients			
Inpatients (average daily census)	150	150	150
Outpatients (inpatient equivalents)	200	200	250
Total	350	350	400
Medicare base payments (millions)			
Inpatient operating	\$35	\$35	\$35
Inpatient capital	\$3	\$3	\$3
Outpatient	\$22	\$25	\$22
Current inpatient-centric IME policy (same payments regardless of Medicare outpatient services or total patients)			
Medicare FFS base payments for IME-eligible services (inpatient operating and capital) (millions)	\$38	\$38	\$38
Measures of teaching intensity			
RBR	0.12	0.12	0.12
RADC	0.21	0.21	0.21
IME APs			
Inpatient operating ($1.35 \times [(1 + \text{RBR})^{0.405} - 1]$)	6%	6%	6%
Inpatient capital ($e^{(0.2822 \times \min(1.5, \text{RADC}))} - 1$)	6%	6%	6%
IME FFS payments (AP \times base) (millions)			
Inpatient operating	\$2.2	\$2.2	\$2.2
Inpatient capital	\$0.2	\$0.2	\$0.2
Total	\$2.4	\$2.4	\$2.4

Note: IME (indirect medical education), FFS (fee-for-service), RBR (residents-to-(inpatient)bed ratio), RADC (resident per average daily (inpatient) census), AP (adjustment percentage), RPR (resident-to-patient ratio), e (Euler's number). "Resident-to-patient" ratio calculated as allowed residents divided by all-payer average daily inpatients plus outpatient equivalents, where outpatient equivalents are calculated as daily inpatients multiplied by the ratio of all-payer outpatient to inpatient revenue. Modeled revised policy adjustment percentages and budget-neutrality adjustments based on analysis of inpatient prospective payment system hospitals with complete cost reports having a midpoint in fiscal year 2019; as such, the modeled policy is budget neutral across all hospitals (but not for these three example hospitals). Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare cost report data from CMS.

its IME payments would go from being entirely for inpatient services to being roughly evenly split between inpatient and outpatient services.

- **Hospital B**—which has the same values as Hospital A except it is more Medicare outpatient-centric—would receive a larger increase in IME payments. Hospital B would see the same decrease

(continued next page)

Illustrative examples of IME payments under current and modeled revised IME policy (cont.)

**TABLE
6-4**

Illustrative examples of IME FFS payment calculations under current and modeled revised IME policy (cont.)

	Hospital A (values near median)	Hospital B (same characteristics as A, except more Medicare outpatients)	Hospital C (same characteristics as A, except more non-Medicare outpatients)
Modeled revised inpatient and outpatient policy (shifts payments toward hospitals with larger increases in Medicare outpatient services or calculated teaching intensity)			
Medicare FFS base payments for IME-eligible services (inpatient operating and outpatient) (millions)	\$57	\$60	\$57
Change versus current policy	+50%	+58%	+50%
Measure of teaching intensity			
RPR	0.09	0.09	0.08
Change versus current policy	-29%	-29%	-38%
IME APs, with budget-neutrality adjustment (based on all hospitals)			
Inpatient operating $(1.36 \times [(1 + \text{RPR})^{0.30} - 1])$	3%	3%	3%
Outpatient $(1.36 \times [(1 + \text{RPR})^{0.52} - 1])$	6%	6%	5%
IME FFS payments (millions)			
Inpatient	\$1.2	\$1.2	\$1.0
Outpatient	\$1.3	\$1.5	\$1.1
Total	\$2.5	\$2.7	\$2.2
Change versus current policy	+4%	+12%	-8%

Note: IME (indirect medical education), FFS (fee-for-service), RBR (residents-to-(inpatient)bed ratio), RADC (resident per average daily (inpatient) census), AP (adjustment percentage), RPR (resident-to-patient ratio), e (Euler's number). "Resident-to-patient" ratio calculated as allowed residents divided by all-payer average daily inpatients plus outpatient equivalents, where outpatient equivalents are calculated as daily inpatients multiplied by the ratio of all-payer outpatient to inpatient revenue. Modeled revised policy adjustment percentages and budget-neutrality adjustments based on analysis of inpatient prospective payment system hospitals with complete cost reports having a midpoint in fiscal year 2019; as such, the modeled policy is budget neutral across all hospitals (but not for these three example hospitals). Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare cost report data from CMS.

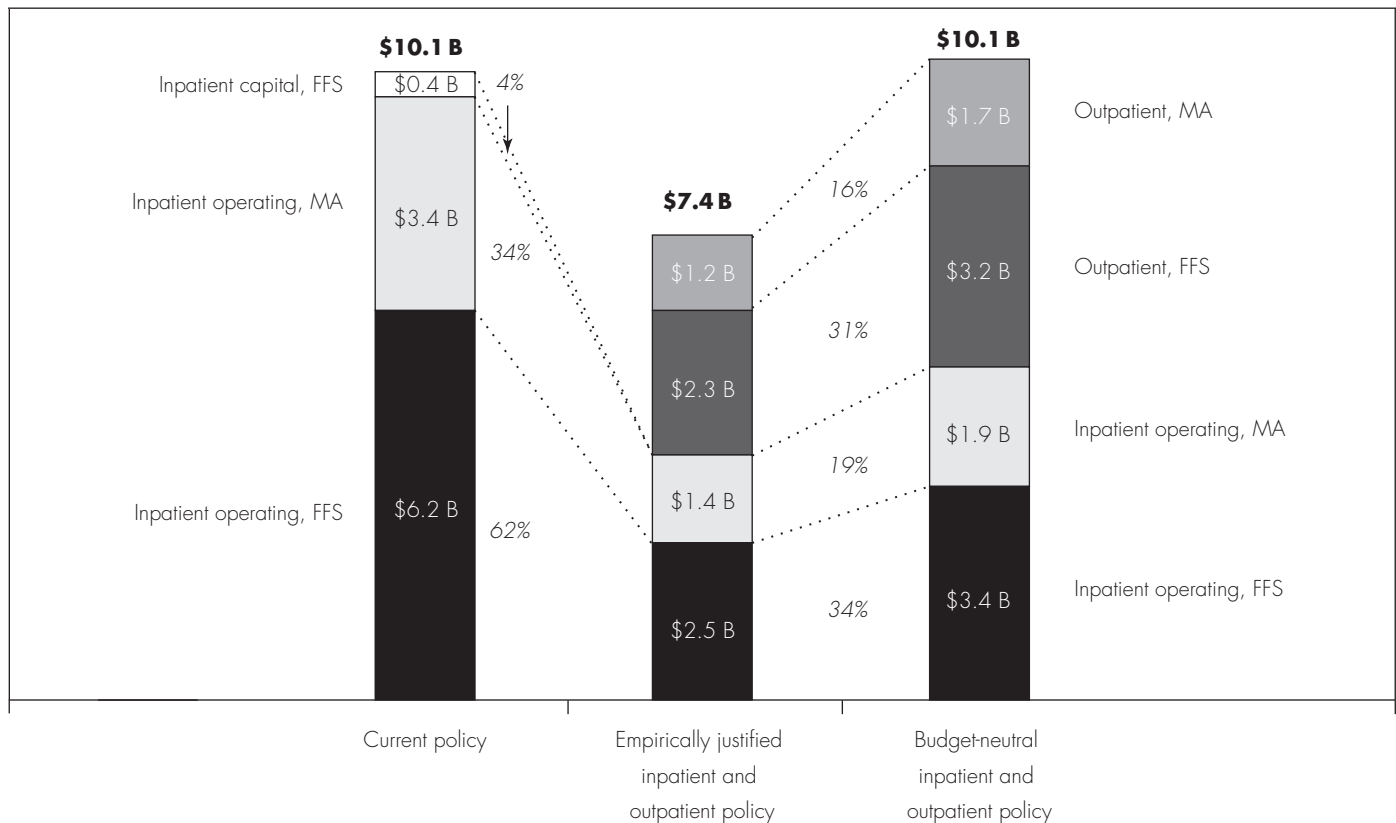
in inpatient IME payments as Hospital A, but the greater IME-eligible outpatient services (\$25 million vs. \$22 million in outpatient base PPS payments for FFS beneficiaries) would raise the outpatient IME payments to be higher (\$1.5 million vs. \$1.3 million). The net result would be a 12 percent increase in IME payments.

- **Hospital C**—which has the same values as Hospital A except that it treats more non-Medicare outpatients—would receive a decrease in IME

payments. Hospital C would have the same increase in IME-eligible services as Hospital A, but its resident-to-patient ratio would drop (–38 percent). Applying this lower measure of teaching intensity (0.08, or 30 residents per 400 patients) to the same Medicare base payments would generate lower IME adjustments and therefore a lower inpatient IME payment (\$1.0 million vs. \$1.2 million) and outpatient IME payment (\$1.1 million vs. \$1.3 million). The net result would be an 8 percent decrease in IME payments. ■

**FIGURE
6-3**

Revised budget-neutral inpatient and outpatient policy would redistribute IME payments toward outpatient care, 2019



Note: IME (indirect medical education), B (billion), FFS (fee-for-service), MA (Medicare Advantage). Under the revised IME policy, the Medicare program would make IME payments for IME-eligible inpatient and outpatient services provided to Medicare FFS and MA beneficiaries; each teaching hospital's teaching intensity is calculated as its ratio of allowed residents to all-payer average daily inpatients plus outpatient equivalents; and the levels of the IME adjustments are set at their empirically justified levels—capped at 25 percent—multiplied by a budget-neutrality adjustment such that aggregate IME payments are the same as under current policy. The percentages between the bars are the share of dollars for that part of the bar. For example, for inpatient operating FFS, the share of the left bar (current policy), is 62 percent (\$6.2 B of \$10.1 B), while the inpatient operating FFS share of both the middle (empirically justified) and right (budget-neutral) bars equals 34 percent. Results include inpatient prospective payment system hospitals with complete cost reports having a midpoint in fiscal year 2019. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare cost report data from CMS.

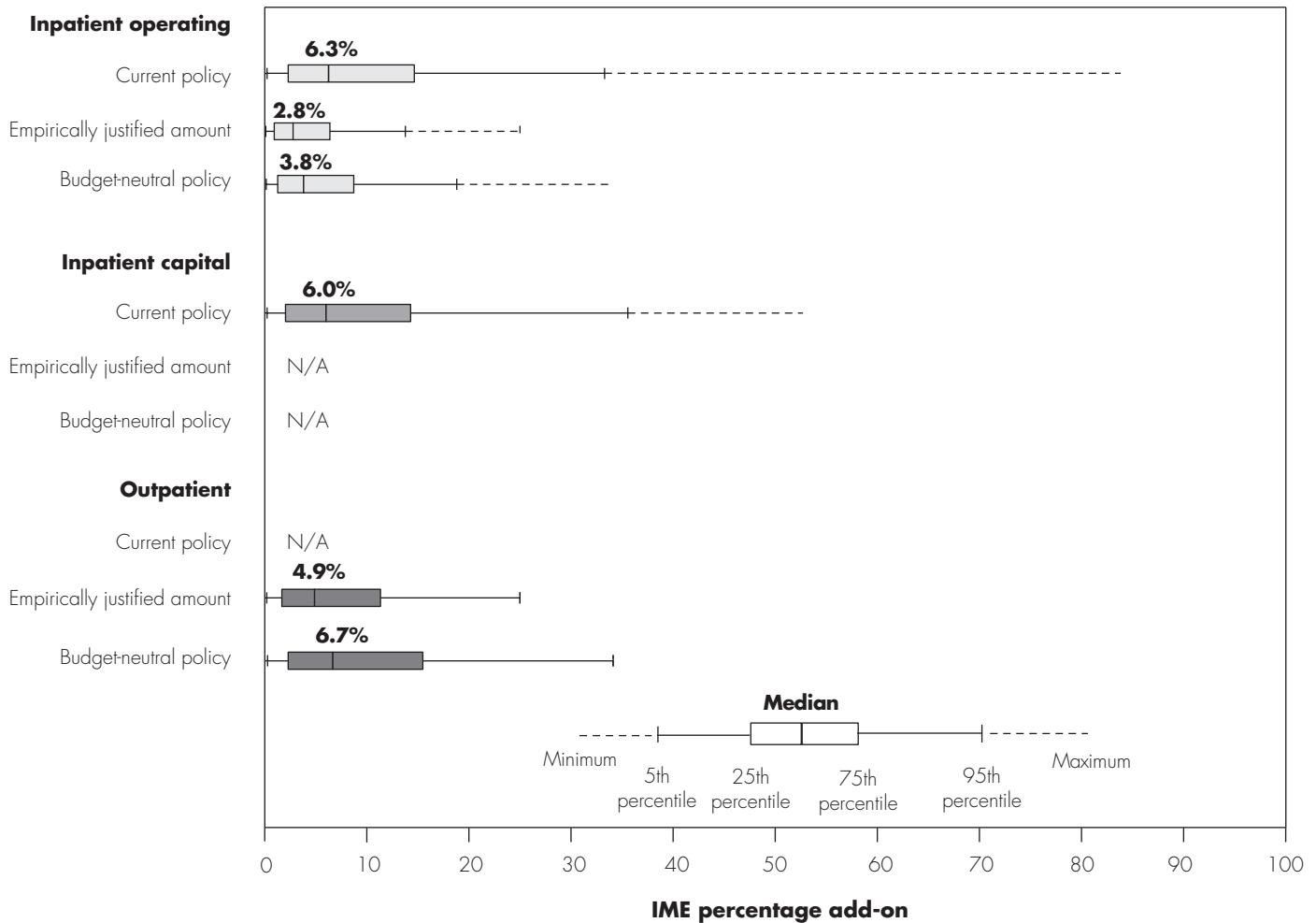
locations; and teaching hospitals that treat low and high shares of low-income patients. The two groups that would experience the largest changes in aggregate total FFS payments are small teaching hospitals, which would see an increase of 0.7 percent, and hospitals in the highest quartile of residents per beds, which would see a decrease of 0.5 percent.²⁹ However, even within these two groups, the effect of the revised IME policy varied, including more than one-quarter that would see a decrease and more than one-quarter that would see an increase in their total FFS payments (Table 6-5, p. 226).

Revised IME policy would shift payments toward teaching hospitals with additional costs not accounted for under the current policy

While a revised budget-neutral inpatient IME policy would result in a small change in total FFS payments for most teaching hospitals and groups of hospitals, it would shift IME payments toward hospitals with additional costs that are not accounted for under the current inpatient-centric policy. These teaching hospitals include those that (1) provide a larger share of their care to Medicare beneficiaries in outpatient settings and

**FIGURE
6-4**

Empirically justified IME adjustment varies across hospital care settings and differs from current policy

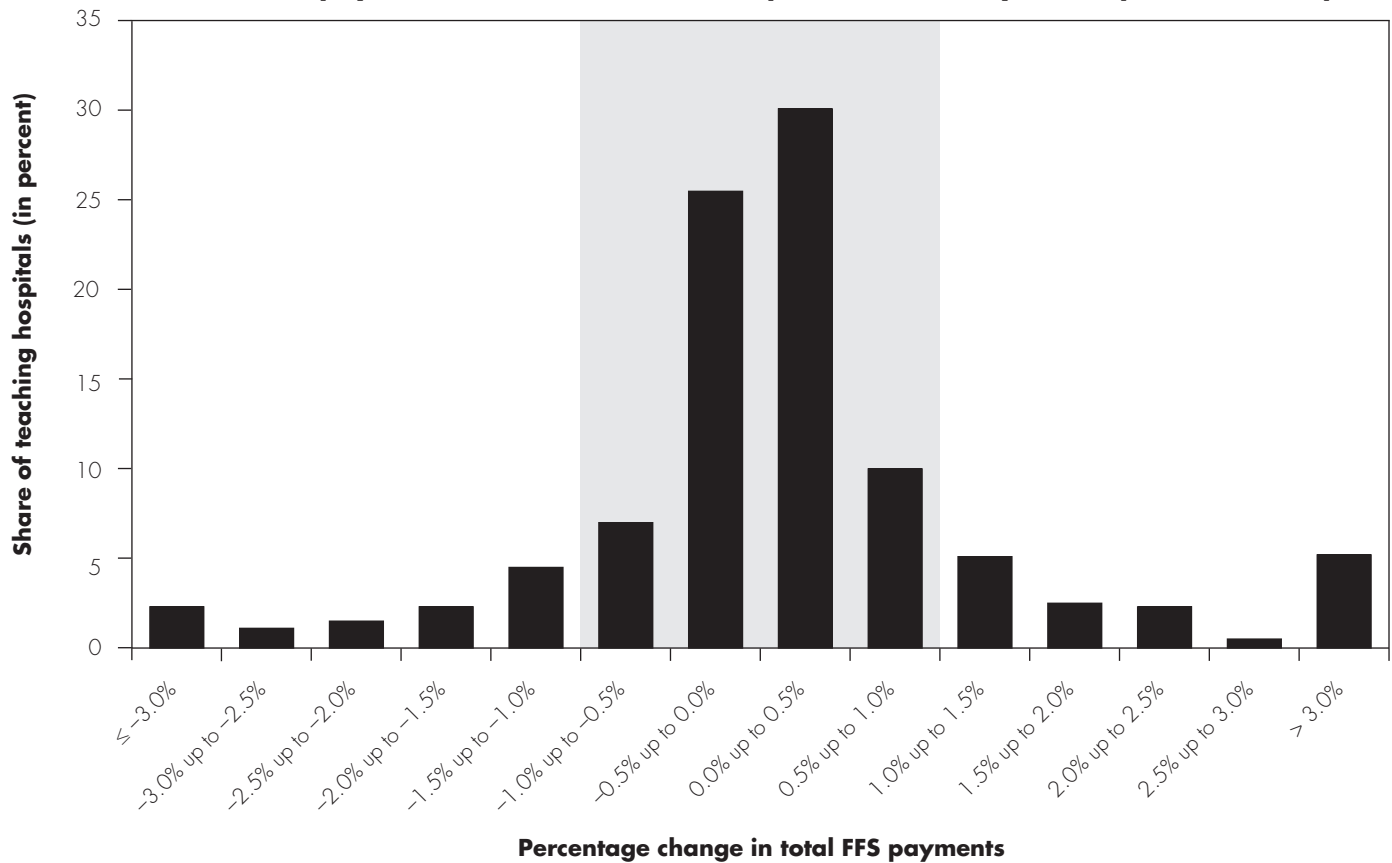


Note: IME (indirect medical education), N/A (not applicable). Under the modeled revised IME policy, the Medicare program would make IME payments for IME-eligible inpatient and outpatient services provided to Medicare fee-for-service or Medicare Advantage beneficiaries; each teaching hospital's teaching intensity is calculated as its ratio of allowed residents to all-payer average daily inpatients plus outpatient equivalents; and the levels of the IME adjustments are set at their empirical levels—capped at 25 percent—multiplied by a budget-neutrality adjustment such that aggregate IME payments are the same as under current policy. Results include inpatient prospective payment system hospitals with complete cost reports having a midpoint in fiscal year 2019.

Source: MedPAC analysis of Medicare cost report data from CMS.

(2) have an inpatient-and-outpatient measure of teaching intensity (resident-to-patient ratio) that is relatively high compared with the primary inpatient-capacity measure used in current policy (resident-to-bed ratio) (Table 6-6, p. 227). Among the subset of hospitals for which IME FFS payments constitute a large share of their total FFS payments, the shift in IME payments would result in large increases in their total FFS payments.

For many teaching hospitals, the revised budget-neutral inpatient and outpatient IME policy would result in a relatively small change in IME FFS payments because the addition of outpatient IME payments would be roughly equal to its decrease in inpatient IME payments. This result occurs because teaching hospitals that are more outpatient-centric in their care of Medicare beneficiaries often also have a resident-to-patient ratio that is low relative to its resident-to-bed ratio.³⁰ For example, the

**FIGURE
6-5****Effect of revised budget-neutral inpatient and outpatient IME policy on total FFS payments would be less than 1 percent for nearly three-quarters of hospitals**

Note: IME (indirect medical education), FFS (fee-for-service). Under the modeled revised IME policy, the Medicare program would make IME payments for IME-eligible inpatient and outpatient services provided to Medicare FFS or Medicare Advantage beneficiaries; each teaching hospital's teaching intensity is calculated as its ratio of allowed residents to all-payer average daily inpatients plus outpatient equivalents; and the levels of the IME adjustments are set at their empirical levels multiplied by a budget-neutrality adjustment such that aggregate IME payments are the same as under current policy. "Percentage change in total FFS payments" is calculated as change in inpatient and outpatient Medicare FFS payments (including uncompensated care payments) under the revised policy (relative to current policy); it does not include all Medicare payments to teaching hospitals, such as those for other types of services, direct graduate medical education payments, or IME payments for Medicare Advantage beneficiaries. Results include inpatient prospective payment system hospitals with complete cost reports having a midpoint in fiscal year 2019.

Source: MedPAC analysis of Medicare cost report data from CMS.

median teaching hospital's 41 percent increase in base FFS PPS payments for IME-eligible services (from the addition of outpatient IME payments) would slightly more than offset its lower inpatient IME payments (from the change to an inpatient plus outpatient measure of teaching intensity and lower, closer to empirically justified, inpatient IME adjustment percentage), resulting in a small (4 percent) increase in IME FFS payments under the revised policy. This 4 percent increase in IME FFS payments for the median teaching hospital would translate

to a less than 0.05 percent increase in total inpatient and outpatient FFS payments.

However, some teaching hospitals have large differences between their additional patient care costs and current IME payments, and the subset of these for which IME payments constitute a large share of their total FFS payments would correspondingly see larger changes in their total FFS payments. For example, the teaching hospitals that would see a greater than 3 percent decrease in their total FFS payments either are highly inpatient-

Effect of teaching on costs is less than current policy for inpatient operating costs, insignificant for capital costs, and largest for outpatient costs

In estimating the empirical effect of teaching on hospitals' additional patient care costs not otherwise accounted for in each of the three hospital prospective payment systems (PPSs), we found the following:

- ***The empirical indirect medical education (IME) adjustment to inpatient operating PPS is well below current policy.*** We found a moderate effect of teaching on inpatient operating costs, well below current policy. Our resulting estimate that empirically justified inpatient operating IME payments are about 40 percent (\$2.5 B / \$6.2 B) of current policy (Figure 6-3, p. 222) is consistent with prior work by the Commission and others.³¹
- ***An IME adjustment to the inpatient capital PPS is not warranted.*** We found no statistically significant effect of teaching on inpatient capital costs. This finding is consistent with prior CMS analyses and conclusions.
- ***An IME adjustment to the outpatient PPS is warranted and is larger than for the inpatient adjustment.*** We found that hospitals with higher

teaching intensity had higher outpatient care costs that were not accounted for in the PPS and that this effect was larger than for inpatient care costs. Our finding of a significant relationship between teaching intensity and outpatient costs is consistent with prior Commission work that found teaching hospitals' outpatient costs per unit of service were significantly above the national average (Medicare Payment Advisory Commission 2014). Our finding that teaching had a larger effect on outpatient costs than inpatient costs could be driven by several factors. First, our estimates capture teaching hospitals' additional costs not related to current payment adjustments, and the outpatient PPS includes fewer adjustments for patient characteristics than the inpatient PPS.³² Second, resident labor substitutes for nursing or other clinical labor in inpatient settings, offsetting some of the indirect costs of teaching (Institute of Medicine 2009). Third, inpatient care includes a larger share of room and board services than outpatient care, and these room and board services are more fixed across patient severity and resident involvement. ■

centric in their care of Medicare beneficiaries or have a very low resident-to-patient ratio relative to resident-to-bed ratio;³³ these hospitals are overpaid under the current inpatient-centric and higher than empirically justified IME policy. In contrast, the teaching hospitals that would see a greater than 3 percent increase in their total FFS payments either are highly outpatient-centric in their care of Medicare beneficiaries or have a much higher resident-to-patient ratio relative to resident-to-bed ratio.³⁴ Both the teaching hospitals that would see a more than 3 percent decrease and those that would see a more than 3 increase in total FFS payments under the revised IME policy include a mix of for-profit, nonprofit, and government-owned hospitals; hospitals that treat a low and high share of low-income patients; and small (fewer than 150 beds) and large (more than 400 beds) hospitals. However,

almost all teaching hospitals that would see an over 3 percent decrease or increase in their total FFS payments have a high teaching intensity (both a resident-to-bed ratio and resident-to-patient ratio among the top half of hospitals) because these are hospitals for which IME FFS payments tend to constitute a larger share of their total FFS payments.

Recommendation

Transitioning to an empirically justified inpatient and outpatient IME policy would address concerns with current IME policy and could be done while initially maintaining—and eventually increasing—Medicare's

**TABLE
6-5****Aggregate effects of revised budget-neutral inpatient and outpatient IME policy on total FFS payments would be small for most groups of teaching hospitals**

Teaching hospital group	Percentage change in total FFS payments				
	Aggregate	5th percentile	25th percentile	75th percentile	95th percentile
All	-0.1%*	-2.0%	-0.3%	0.5%	3.0%
Ownership					
For profit	-0.1	-2.2	-0.2	0.7	4.7
Nonprofit	-0.2	-1.7	-0.3	0.4	2.1
Government	0.2	-2.3	-0.5	1.1	4.3
Location					
Urban (metropolitan)	-0.1	-2.1	-0.3	0.5	3.1
Rural	0.0	-1.1	-0.1	0.6	2.3
Share of low-income patients					
Lowest (<25%)	0.0	-1.3	-0.2	0.4	2.3
Medium low	-0.2	-1.7	-0.3	0.3	1.6
Medium high	-0.2	-1.4	-0.2	0.5	3.4
Highest (>42%)	-0.1	-3.1	-0.4	0.9	3.5
Inpatient beds					
Small (<150)	0.7	-1.3	0.0	1.3	5.9
Medium small	0.0	-2.0	-0.2	0.6	2.1
Medium large	0.0	-2.3	-0.3	0.4	1.9
Large (>400)	-0.3	-2.3	-0.6	0.3	1.3
Resident-to-bed ratio					
Lowest	0.1	-0.1	0.0	0.1	0.5
Medium low	0.1	-0.6	-0.2	0.5	1.7
Medium high	0.1	-1.3	-0.4	1.1	3.8
Highest	-0.5	-3.9	-1.5	0.9	5.0

Note: IME (indirect medical education), FFS (fee-for-service). Under the modeled revised IME policy, the Medicare program would make IME payments for IME-eligible inpatient and outpatient services provided to Medicare FFS or Medicare Advantage (MA) beneficiaries; each teaching hospital's teaching intensity is calculated as its ratio of allowed residents to all-payer average daily inpatients plus outpatient equivalents; and the levels of the IME adjustments are set at their empirically justified levels multiplied by a budget-neutrality adjustment such that aggregate IME payments are the same as under current policy. "Percentage change in total FFS payments" is calculated as change in inpatient and outpatient Medicare FFS payments (including uncompensated care payments) under the revised policy (relative to current policy); it does not include all Medicare payments to teaching hospitals, such as those for other types of services, direct graduate medical education payments, or IME payments for MA beneficiaries. Results include inpatient prospective payment system hospitals with complete cost reports having a midpoint in fiscal year 2019.

*The revised policy maintains the aggregate level of FFS and MA IME payments from the Medicare program. Medicare currently pays capital IME payments for FFS patients but does not directly pay capital IME for MA patients. Because FFS capital IME payments are being removed from FFS patients' payments but not from MA patients' IME payments, the net change in IME payments will be slightly negative for FFS patients (who lose capital IME) and slightly positive for MA patients (who do not lose capital IME). However, some MA plans may be paying capital IME payments to hospitals. To the degree that MA plans stop paying capital IME add-ons when the FFS program ceases capital IME add-ons, the benefit that hospitals with MA patients see from the change in our model could be offset by reduced IME payments paid by plans in their negotiated rates. There is some uncertainty on the net effect because we do not know how often capital IME is built into hospitals' negotiated rates with MA plans.

Source: MedPAC analysis of Medicare cost report data from CMS.

aggregate support for teaching hospitals' indirect costs of medical education. Reforming IME policy consistent with the principles outlined earlier would help align IME payments with the contemporary spectrum of settings in which residents train and patients receive hospital care; reduce the financial penalty of lost IME revenue

when teaching hospitals appropriately treat Medicare beneficiaries in outpatient, rather than inpatient, settings; and make IME payments more equitable for teaching hospitals that have shifted—or will shift in the future—to providing resident training and care of Medicare beneficiaries in hospital outpatient settings.

**TABLE
6-6**

Revised inpatient and outpatient IME policy would shift payments to teaching hospitals that are more outpatient-centric in their care of Medicare beneficiaries or have more residents per patients than per beds

**Medicare services provided in outpatient settings,
relative to inpatient settings**

		Low	High
Residents per patients relative to residents per beds	High	Minimal changes in IME FFS payments	Increases in IME FFS payments
	Low	Decreases in IME FFS payments	Minimal changes in IME FFS payments

Note: IME (indirect medical education), FFS (fee-for-service). The effect of a revised inpatient and outpatient IME policy on a teaching hospital's IME FFS payments would primarily depend on the interaction of these two factors. Hospitals with a given value of one factor could see increases, minimal changes, or decreases in their IME FFS payments, depending on the value of the other.

Within these broad principles, CMS should use the formal rule-making process to finalize:

- ***The set of services and locations that should be excluded from an IME adjustment.*** While we found an IME adjustment to the outpatient PPS to generally be warranted, there may be certain services beyond separately payable drugs and devices for which an IME adjustment is not warranted, such as certain lab services.³⁵
- ***The measure of teaching intensity.*** Especially to the extent CMS is able to collect additional data, there will be opportunities to further improve on the residents-to-patients measure we modeled. For example, CMS could explore separate measures for inpatient and outpatient settings or for residents in different specialties or different years of training. CMS could also solicit feedback on options for ensuring stability in hospitals' resident-to-patient ratios, such as using a rolling average of patients.
- ***The formulas to convert teaching intensity to an IME adjustment.*** The Commission previously noted the absence of data on the net costs of residents—including both financial costs and benefits of training residents—and how those costs varied by specialty, and recommended that the Department of Health and Human Services report on how residency programs affect financial performance and whether all specialties should be supported equally (Medicare Payment Advisory Commission 2010).³⁶ Even with existing data, CMS could explore whether different

adjustment formulas are warranted for hospitals with different levels of teaching intensity and at what level IME adjustments should be capped.

- ***Measuring MA outpatient services.*** To accurately calculate IME payments for hospital outpatient care provided to MA beneficiaries, Medicare could start requiring hospitals to submit informational claims on MA beneficiaries' use of hospital outpatient services (as they currently do for inpatient services)—a requirement that would not only support more equitable IME payments but also provide a valuable data source to validate MA plan-submitted encounter data. Until such informational claims are available, Medicare could estimate MA outpatient use with currently available data, such as FFS outpatient use and the ratio of MA to FFS inpatient use.
- ***How to transition to empirically justified IME payments.*** To minimize the effect on teaching hospitals, the Commission believes Medicare's aggregate support to teaching hospitals should be maintained, at least in the short term. However, CMS could solicit feedback on different approaches to transition to empirically justified levels. For example, one alternative option to maintain aggregate IME payments could be to immediately provide empirically justified outpatient IME payments and apply a budget-neutrality adjustment only to increase empirically justified inpatient IME payments. In addition, while the revised IME policy would result in a small change in total FFS payments for the majority of teaching hospitals, a phase-in could be implemented for the

The Commission's prior recommendations on graduate medical education

In 2010, the Commission made several recommendations on graduate medical education (GME), including using Medicare's funding of GME to support future workforce needs and requiring the Secretary to conduct and publish analyses that would inform future reforms (Medicare Payment Advisory Commission 2010). These recommendations included that:

- the Congress authorize the Secretary to change Medicare's funding of GME to support the workforce skills needed in a delivery system that reduces cost growth while maintaining or improving quality;
- the Secretary should annually publish a report that shows Medicare medical education payments received by each hospital and each hospital's associated costs, and that information should be publicly accessible and clearly identify each hospital, the direct and indirect medical education payments received, the number of residents and other health professionals that Medicare supports, and Medicare's share of teaching costs incurred;
- the Secretary should conduct workforce analysis to determine the number of residency positions needed in the U.S. in total and by specialty and to examine and consider the optimal level and mix of other health professionals, which should be based on the workforce requirements of health care delivery systems that provide high-quality, high-value, and affordable care;
- the Secretary should report to the Congress on how residency programs affect the financial performance of sponsoring institutions and whether residency programs in all specialties should be supported equally; and
- the Secretary should study strategies for increasing the diversity of our health professional workforce (e.g., increasing the shares from underrepresented rural, lower income, and minority communities) and report on what strategies are most effective to achieve this pipeline goal. ■

subset of hospitals that would see more substantial changes. For example, one option could be to limit the percentage change in FFS payments in each year to the annual update to inpatient and outpatient PPS payments in that year. Furthermore, to the extent that policymakers are concerned about the effects on certain groups of teaching hospitals that provide important social missions or want to encourage development of a certain workforce, CMS could also explore other transition options, such as setting aside a portion of current-law IME payments above empirically justified levels to distribute outside of the PPSs to teaching hospitals that meet certain criteria.

- **Cost sharing and premiums.** Depending on flexibility granted by the Congress, CMS could also use the formal rule-making process to finalize an approach to reflect IME payments in Medicare cost sharing and premiums. Because Medicare beneficiaries are

generally responsible for 20 percent of Medicare's payment rate for outpatient services (covered under Part B), absent any modifications, the addition of outpatient IME payments would increase beneficiary cost sharing by the same percentage as the outpatient IME adjustment percentage (a median of 6.7 percent, or \$1 on a typical evaluation and management service). Similarly, because Part B premiums are based on expected Part B spending, Part B premiums would also increase by about 1.5 percent. Conversely, because cost sharing for inpatient services (covered under Medicare Part A) is based on a deductible and daily copayments derived from the prior year's amounts times the annual update to the IPPS, Part A cost sharing would not change. CMS could explore options for phasing in changes to Part B cost sharing, if any subset of IME payments should be exempt from associated cost-sharing requirements, and the extent to which lower anticipated Part A spending should

be reflected in lower Part A cost sharing versus be exclusively used to improve the solvency of the Part A trust fund (or whether outpatient IME payments should continue to be paid by Part A).

Having the Congress outline principles for IME reform but leave more detailed implementation decisions to CMS to make through rulemaking and periodic updates would provide flexibility for stakeholders to offer input and for CMS to update IME policy over time as warranted. CMS should assess the need to update IME policy over time as additional and newer data become available and CMS makes other changes to the PPSs and GME policy.

Transitioning to empirically justified IME payments for both inpatient and outpatient PPS services would make IME payments more equitable for teaching hospitals that have shifted—or will shift in the future—to providing more care and resident training in hospital outpatient settings. However, CMS should monitor the effects of the revised IME policy and collect additional data to support further improvements in IME payment accuracy—such as data on MA outpatient services and the net costs of training residents by specialty. At the same time, policymakers should continue to explore opportunities to address broader concerns with graduate medical education funding. In 2010, the Commission made several recommendations on graduate medical education, including using Medicare’s funding to support future workforce needs, such as an adequate supply of primary care providers and those practicing in rural areas (see text box on prior recommendations).

RECOMMENDATION 6

The Congress should require CMS to transition to empirically justified indirect medical education adjustments to both inpatient and outpatient Medicare payments.

RATIONALE 6

The Commission has expressed concerns with Medicare’s IME policy, including its inpatient-centric approach, which no longer reflects the range of settings in which residents train and patients receive care, and the level of IME payments made to hospitals under the IPPS, which is higher than empirically justified. As a result, Medicare overpays teaching hospitals for their indirect costs of medical education in inpatient settings and underpays for those costs in outpatient settings, creating financial penalties in the form of lost IME revenue when teaching hospitals safely substitute an inpatient admission with outpatient treatment.

Responding to these concerns, the Commission recommends that IME policy be transitioned from the current policy to an empirically justified policy that accurately reflects teaching hospitals’ additional costs of both inpatient and outpatient care. The transition to empirically justified IME payments should be constructed to minimize any adverse effects on teaching hospitals. For example, Medicare could transition to these empirically justified levels by maintaining aggregate IME payments (which exceed the empirically justified amounts) until such time as they reach an empirically justified level, from which point Medicare’s IME adjustment would be based on empirically justified levels.

IMPLICATIONS 6

Spending

- By design, this recommendation is expected to maintain aggregate IME payments in the short term—both in the first year and over the first five years. Over time, as care continues to shift to outpatient settings, empirically justified IME payments would match and then exceed those under current policy baseline; once that occurs, IME payments could be set at their (higher than current-law) empirically justified levels.
- Medicare spending on Part A services would decrease while spending on Part B services would increase, unless the Congress specified that outpatient IME payments should be paid out of the Part A trust fund.

Beneficiary and provider

- We do not anticipate this recommendation will have adverse effects on beneficiaries’ access to hospital care or hospitals’ willingness to treat Medicare beneficiaries.
- Medicare beneficiaries would face slightly higher cost-sharing liability for outpatient services at teaching hospitals and for Part B premiums, unless the Congress and CMS acted to exempt the new outpatient IME payments from cost-sharing and premium calculations.
- Transitioning to an IME policy that better reflects teaching hospitals’ additional costs across hospital settings would make IME payments more equitable for teaching hospitals that have already shifted—or will shift in the future—to providing more resident training and patient care in hospital outpatient settings. ■

Methodological details on modeled revised IME policy

Estimating the empirical effect of teaching on patient care costs

To estimate the empirical effect of teaching on patient care costs, we used hospital cost reports for corresponding fiscal years 2016 and 2017 as well as inpatient and outpatient claims over the hospitals' cost reporting periods.³⁷

We ran separate robust regressions for the inpatient operating, inpatient capital, and outpatient prospective payment systems (PPSs) in 2016 and in 2017. For each regression:

- ***The dependent variable was (logged) standardized costs per case.*** We calculated standardized costs per case as the hospital's PPS-reimbursed Medicare costs, divided by the (transfer-adjusted) number of Medicare fee-for-service (FFS) cases in the cost reporting period, and standardized for differences in patient severity, area wages, and outliers by dividing by cost-related components of current policy as well as a factor that accounted for differences in cost reporting periods.³⁸ Because our revised policy does not include an indirect medical education (IME) adjustment on separately payable Part B drugs and devices, we excluded estimates of Part B drugs when constructing our measure of standardized outpatient costs per case.³⁹ The resulting standardized cost per case is an estimate of the costs per case each hospital would have had if it had been located in an average market area, treated an average mix of cases, and had a uniform cost-reporting period—given the current policy adjustments for geography, case mix, and outliers. We took the natural log of standardized costs per case to make the cost distributions more normally distributed.
- ***The primary independent variable was (logged) ratio of residents to patients (plus 1).*** We chose a resident-to-patient ratio (RPR) over the inpatient-centric measures used in current policy because it better reflects hospitals' teaching intensity over the range of settings in which residents train and patients receive care. Because the costs of treating and the time residents spend with patients varies across settings, it would be inappropriate to count inpatients and outpatients equally. Therefore, we calculated an all-payer inpatient plus outpatient equivalent daily census as the hospital's average daily inpatient census, scaled up by 1 plus the hospital's ratio of all-payer outpatient to total inpatient charges. (Given currently available data, we could not exclude outpatient charges for separately payable drugs or devices or services provided in locations where residents do not rotate.) For our regressions, we calculated the RPR using the (uncapped) number of residents training in the hospital in that year because that is the truest measure of the hospital's teaching intensity. We then took the natural log of 1 plus RPR because logged teaching intensity has a stronger theoretical foundation than an unlogged RPR, which would implicitly assume the effect on costs per case of adding one resident was constant, regardless of the number of residents the teaching hospital already has.⁴⁰
- ***The other independent variables were hospital characteristics that are associated with current payment adjustments to Medicare payments and whether the hospital was under fiscal pressure.*** By including variables for characteristics that are associated with current adjustments to Medicare payments but letting the coefficients on these adjustments float, we have the teaching intensity coefficient pick up the costs associated with teaching that are not associated with other payment characteristics (without assuming that these policy-based adjustments are at the empirically justified level or letting any differences skew the teaching hospital coefficient).⁴¹ We identified hospitals under fiscal pressure consistent with our payment adequacy work and included them in our regressions because hospitals under fiscal pressure tend to have lower costs, and fiscal pressure is slightly correlated with teaching status.⁴² The resulting teaching intensity regression coefficients can be interpreted as the percentage

(continued next page)

Methodological details on modeled revised IME policy (cont.)

increase in costs per case for each approximate percentage increase in teaching intensity among hospitals under fiscal pressure after accounting for current cost-based payment adjustments and the empirically justified effect of other payment adjustments.⁴³

Estimating empirically justified IME payments

In estimating empirically justified IME payments under our revised policy, we made several key decisions related to the base payments to which the IME adjustment would be made and the extent to which teaching intensity and resulting IME adjustment would be capped. We:

- **Included IME payments for care of Medicare Advantage (MA) beneficiaries.** In estimating IME payments, we applied the IME adjustment to estimated base payments for the care of MA beneficiaries. Because hospital claims and cost reports currently capture only MA beneficiaries' inpatient stays and associated simulated inpatient operating PPS base payments, we imputed simulated base payments for MA beneficiaries' hospital outpatient services as each hospital's outpatient PPS base payments for FFS beneficiaries multiplied by its ratio of MA to FFS inpatient operating payments.
- **Excluded separately payable drugs and devices from the IME adjustment.** We excluded outpatient PPS base payments for separately payable drugs and devices from the new outpatient IME adjustment as costs for these services costs do not have a theoretical relationship with teaching intensity. To identify outpatient PPS base payments exclusive of those for separately payable drugs and devices, we used outpatient claims (because cost reports do not have this detailed information) and estimated base payments by deflating the total outpatient PPS payment by the sole community hospital adjustment as applicable.⁴⁴

- **Applied to all outpatient PPS locations.** Because CMS does not currently collect data on locations within a hospital where residents trained, we did not exclude any locations. For locations that received a lower outpatient PPS rate equivalent to the rate under the Medicare physician fee schedule, we applied the IME adjustment to the lower rate.⁴⁵
- **Maintained current policy caps on residents.** While we estimated the empirical effect of teaching on costs using uncapped residents, when calculating each hospital's IME adjustment percentage in each setting, we maintained current policy restrictions on residents. (We treated residents added through the Medicare Modernization Act the same as other residents (in contrast to current policy, which applies a lower IME adjustment percentage to these residents).)
- **Added a cap to IME percentage adjustment.** In addition to maintaining the current policy restrictions on hospitals' residents, we also capped the maximum IME adjustment at 25 percent. We added a cap for two main reasons. First, for theoretical reasons, we believe there is a threshold beyond which each percentage increase in teaching intensity does not result in a proportional increase in costs. Second, most other hospital policy adjustments are capped (e.g., the disproportionate share hospital adjustment is capped at 12 percent for most hospitals, the low-volume adjustment capped at 25 percent, and inpatient capital IME at 53 percent). We selected a cap of 25 percent—a level that we estimated would limit the inpatient operating IME percentage add-on for less than 1 percent of teaching hospitals and the outpatient IME percentage add-on for about 5 percent of teaching hospitals—as a balance between existing caps on other adjustments.

Under these modeling decisions, we estimated 2019 IME payments under a revised inpatient and outpatient IME policy and then scaled the payments in each setting such that IME payments were budget neutral to those under current policy. ■

Endnotes

- 1 Teaching hospitals are those with approved residency programs in medicine, osteopathy, dentistry, and/or podiatry. This chapter is limited to Medicare's indirect medical education payments to short-term acute care teaching hospitals, defined as teaching hospitals paid under the inpatient prospective payment system; it does not address payments to other types of teaching hospitals, such as rehabilitation and psychiatric hospitals.
- 2 Teaching hospitals' Medicare DGME costs are excluded from the inpatient prospective payment systems and continue to be paid separately. Medicare's DGME payments to teaching hospitals are per resident payments calculated as the product of three hospital-specific factors: the hospital's allowed residents, a hospital-specific per resident dollar amount, and the share of the hospital's inpatient days that were for Medicare fee-for-service or Medicare Advantage beneficiaries. This product is then reduced by a percentage to fund Medicare Advantage nursing and allied health education payments.
- 3 Teaching hospitals paid under the inpatient prospective payment system trained a total of over 104,000 residents in fiscal year 2019, but residents above the allowed resident level (currently set at about 90,000 residents) do not increase teaching hospitals' IME (or DGME) payments.
- 4 The 5 percent of teaching hospitals with an inpatient operating IME adjustment over 33 percent had a resident-to-bed ratio of 0.73 or higher. These hospitals had varying characteristics, including some with fewer than 50 allowed residents and beds (such as some eye hospitals) and some with more than 750 residents and beds (such as some academic medical centers).
- 5 We limited these calculations to IME payments for FFS beneficiaries because the Medicare program does not make per service payments for the care of MA beneficiaries (other than inpatient operating IME payments). Uncompensated care payments were not counted as inpatient payments. The distribution of FFS IME payments as a share of teaching hospitals' total inpatient FFS payments is slightly lower than the distribution of IME adjustments to inpatient payments because some components of inpatient PPS payments are not proportional to payment rates (such as outlier payments).
- 6 When the Congress established the inpatient operating PPS in the Social Security Amendments Act of 1983, it specified that the Secretary of the Department of Health and Human Services shall use an educational adjustment factor. In contrast, when the Congress established the inpatient capital PPS in the Omnibus Budget Reconciliation Act 1987, it left many details to the discretion of the Secretary, including that the PPS may provide an adjustment to take into account variations in the relative costs of capital for different types of hospitals. The Congress left similar discretion to the Secretary when it established the outpatient PPS in the Balanced Budget Act of 1997, stating that the Secretary shall establish other adjustments, in a budget-neutral manner, as determined necessary to ensure equitable payments for certain classes of hospitals.
- 7 In a 1998 proposed rule, HCFA discussed a potential IME adjustment to the outpatient PPS and its rationale for not including one (Health Care Financing Administration 1998b). In final rules, HCFA stated it would carefully consider whether permanent adjustments should be made in the outpatient PPS after the expiration of transition provisions, which provided additional payments through 2003 to hospitals whose outpatient PPS payments fell below pre-PPS levels (Health Care Financing Administration 2000a, Health Care Financing Administration 2000b).
- 8 CMS stated that a teaching adjustment to the outpatient PPS was not necessary to ensure equitable payments to teaching hospitals in the 2008 and 2010 final rules (Centers for Medicare & Medicaid Services 2010, Centers for Medicare & Medicaid Services 2007a).
- 9 This estimate of 25 percent excludes payments for separately payable drugs and devices.
- 10 Hospitals' decisions on where to train residents depend on numerous factors, including Accreditation Council for Graduate Medical Education requirements.
- 11 In order to be counted, the resident must be assigned to the portion of the hospital subject to the IPPS, to a provider-based hospital outpatient department, or to certain other "nonprovider" outpatient settings (such as freestanding clinics or physician offices) in which the hospital incurs the costs of resident training.
- 12 A second reason the empirical relationship between teaching and costs has declined is that increases in the resident-to-bed ratio do not necessarily correspond to higher costs of patient care. Over time, hospitals have both increased their resident counts and decreased their inpatient beds, but the resulting rise in measured teaching intensity does not necessarily boost costs per case. Note that Medicare policies limit a hospital's ability to increase its measure of teaching intensity used in calculating IME payments (e.g., policies cap the number of allowed residents a hospital can count, and IME payments are set using the lesser of a hospital's resident-to-bed ratio in the current year and in the prior year).

- 13 The Social Security Act Amendments Act of 1983 set the IME adjustment factor at twice the factor provided under existing routine cost limit regulations. At the time of enactment, this factor was a 6.06 percent increase in inpatient operating costs per case per every 0.1 increase in a hospital's resident-to-bed ratio (RBR) (Health Care Financing Administration 1982). In the final rule implementing the inpatient operating PPS effective fiscal year 1984, HCFA updated its estimate (to 5.795 percent). As a result, the initial IME adjustment was $0.1159 \times 10 \times \text{RBR}$ (Health Care Financing Administration 1983).
- 14 The Consolidated Omnibus Budget Reconciliation Act of 1985 specified an IME adjustment formula effective May 1, 1986, equal to $2 \times [(1 + \text{RBR})^{0.405} - 1]$. The 0.405 exponent is the estimated teaching coefficient obtained by the Congressional Budget Office in 1985 using 1981 data, and 2 is the multiplier set by the Congress (Nguyen and Sheingold 2011). (This adjustment formula is often described as representing a $c \times 0.405 \times 10$ (e.g., $8.7 = 2 \times 0.405 \times 10$) increase in IME payments for every 10 percent increase in the resident-to-bed ratio (RBR), but more accurately is a $c \times 0.405 \times 10$ increase in IME payments for every 10 percent increase in $(1 + \text{RBR})$, where c is the multiplier specified by Congress.) The Omnibus Budget Reconciliation Act of 1987 increased the disproportionate share adjustment and correspondingly reduced the multiplier to the IME adjustment from 2 to 1.89 (PL 100-203 §4003). These adjustments were extended at the same level through 1998.
- 15 The Balanced Budget Act of 1997 set out a multiyear transition to the IME adjustment multiplicative factor to eventually decrease it to 1.35 by fiscal year 2001. (It also made other changes to IME policy, including eliminating the IME adjustment applied to outlier payments, and capping each hospital's allowed resident slots that could be counted toward the IME adjustment at the number training at the hospital in 1996, subject to exceptions and adjustments.) Subsequent legislation changed this transition schedule (including some years with increases) such that the multiplicative factor to the IME adjustment eventually reached 1.35 by fiscal 2008. The Medicare Modernization Act of 2003 also created a second, lower IME adjustment formula with a multiplicative factor 0.66 that applied only to the small number of resident lots redistributed through the Act.
- 16 The inpatient operating IME adjustment for the first part of 2003 was $1.35 \times [(1 + \text{RBR})^{0.405} - 1]$, roughly equivalent to a 5.5 percent increase in IME payments for every 10 percent increase in the resident-to-bed ratio. The Commission estimated that the empirically justified level was 2.7 percent (or 2.8 percent if capital costs were included). This 2.7 percent is equivalent to reducing the multiplicative factor from 1.35 to 0.66, which is the level the Congress applied to resident slots redistributed through the Medicare Modernization Act of 2003.
- 17 In the 1992 inpatient capital PPS proposed rule, HCFA stated that its regression models consistently indicated that an IME adjustment in the inpatient capital PPS was not warranted, with the negative teaching coefficient indicating that the other payment variables more than fully accounted for the higher capital costs of teaching hospitals (Health Care Financing Administration 1991a). Updated regression results also showed a negative relationship between teaching and capital costs (Cotterill 1992).
- 18 HCFA finalized the initial inpatient capital IME adjustment in the 1992 final rule (Health Care Financing Administration 1991b). HCFA noted—but did not present results on—a positive relationship between teaching intensity and capital costs under a modified specification.
- 19 CMS finalized regulations to remove the inpatient capital IME adjustment in the 2008 final rule (Centers for Medicare & Medicaid Services 2007b). The Commission's comment letter on the proposed rule stated that the Secretary should seriously reexamine the appropriateness of the current capital IME adjustment and that a reduction in the capital IME adjustment would be consistent with the Commission's finding that the IME adjustment (based on an analysis of operating and capital costs combined) is set too high (Medicare Payment Advisory Commission 2007a).
- 20 The American Recovery and Reinvestment Act of 2009 required that teaching hospitals continue to receive the full inpatient capital IME adjustment for fiscal year 2009, but did not affect CMS's plan to eliminate inpatient capital IME payments starting in fiscal year 2010. However, in the inpatient final rule for 2010, CMS determined that eliminating the inpatient capital IME adjustment was not prudent at that time because its updated margins analysis indicated a decline in teaching hospitals' positive capital margin in 2007. CMS noted it would continue to analyze the data concerning the adequacy of payments under the capital IPPS and could propose adjustments in the future if its analysis indicated such adjustments were warranted (Centers for Medicare & Medicaid Services 2009).
- 21 The inpatient capital IME adjustment formula has not been changed since enactment; however, beginning in fiscal year 1999, teaching hospitals' residents per average daily census was capped at 1.5 (Health Care Financing Administration 1998a).
- 22 For example, using 2009 data, the Commission estimated that the Medicare outpatient margin among nonteaching hospitals was -7.8 percent, but -21.0 percent among major teaching hospitals (those with a resident-to-bed ratio above 0.25) and -8.4 percent among other teaching hospitals (Medicare Payment Advisory Commission 2014).

- 23 The Balanced Budget Act of 1997 created the Medicare+Choice program and specified that, beginning in 1998, the Medicare program should phase in inpatient operating IME payments for the care of MA beneficiaries and should carve out these IME payments and DGME payments from the calculation of MA rates. While both changes were meant to be complete by 2002, floors and minimum updates to MA rates delayed the removal of Medicare's medical education payments from MA rates in many areas.
- 24 The Medicare program uses these informational claims on MA beneficiaries' inpatient stays to estimate what base diagnosis related group payments for these stays would have been under the inpatient operating PPS and then makes IME payments by applying the hospital's inpatient operating IME adjustment to these base payments.
- 25 Many teaching hospitals already have lower acquisition costs (and higher profits) on drugs and a comparative advantage over physician offices due to the 340B Drug Pricing Program (Medicare Payment Advisory Commission 2020).
- 26 In contrast, if the current policy inpatient-centric measure were used, there would be an incentive for hospitals to acquire physician practices because the teaching hospital's measure of teaching intensity would not change, but the adjustment percentage would be applied to a larger set of services.
- 27 Because hospitals can vary in the extent to which they receive inpatient capital IME payments for the care of Medicare Advantage (MA) beneficiaries through their contracts with MA plans, we limited this case study to IME payments for the care of fee-for-service beneficiaries.
- 28 We estimate that IME FFS payments would have increased 4 percent for the median teaching hospital and ranged from a 9 percent decrease to a 24 percent increase among the middle half of teaching hospitals. Among the hospitals outside this range (i.e., the quarter with the highest and the quarter with the lowest percentage change in IME FFS payments), the effects for most corresponded to a less than \$1 million dollar change.
- 29 Among these two groups, the percentage change in aggregate IME FFS payments was much larger for small teaching hospitals (19 percent increase) than for high RBR hospitals (5 percent decrease); however, they resulted in similar changes in total inpatient and outpatient FFS payments because IME payments constituted a smaller share of small teaching hospitals' total payments.
- 30 This result reflects in part that teaching hospitals that are more outpatient-centric in their care of Medicare beneficiaries often treat a larger number of all-payer outpatient equivalents, which decreases the hospitals' resident-to-patient ratio.
- 31 In our 2003 report, we estimated that about 50 percent of current IME payments were empirically justified (Medicare Payment Advisory Commission 2003). In our 2010 report, we revised this estimate to 40 percent to 45 percent (Medicare Payment Advisory Commission 2010). The slight decrease in our estimates over time could reflect multiple factors, including new adjustments in the inpatient operating PPS (such as the introduction of Medicare severity–diagnosis related groups in 2007). Using slightly different model specifications, Nguyen and Sheingold estimated that 34 percent of inpatient operating IME payments were empirically justified (Nguyen and Sheingold 2011).
- 32 Besides adjustments for geography and clinical factors, the outpatient PPS includes an adjustment for sole community hospitals. By contrast, the inpatient PPS includes numerous adjustments, such as an adjustment for hospitals that treat a disproportionate share of low-income patients.
- 33 All of the teaching hospitals that would see a greater than 3 percent decrease in their total FFS payments were in the lowest quartile either of Medicare outpatient-centricity (i.e., base FFS payments for IME-eligible outpatient PPS services relative to inpatient services) or of residents to patients relative to residents per beds.
- 34 All but one of the teaching hospitals that would see a greater than 3 percent increase in their total FFS payments were in the highest quartile either of Medicare outpatient-centricity or of residents-to-patients relative to residents-per-beds.
- 35 CMS could solicit comments on the most appropriate method to identify hospitals' costs for separately payable drugs and devices as well as any other excluded services. Longer term, CMS could consider adding cost reporting lines to capture outpatient PPS base payments and costs for separately payable drugs.
- 36 A subsequent 2013 RAND report funded by the Commission qualitatively described key factors by which net costs varied by specialty but was unable to quantify these effects (Wynn et al. 2013).
- 37 We limited the analysis to hospitals paid under the inpatient prospective payment system that had a cost report of 10–14 months with a midpoint in the fiscal year of interest and complete cost report data. We excluded hospitals with inconsistent indicators of their teaching status (such as those that indicated they were teaching hospitals but had missing inpatient operating indirect medical education (IME) payments, inpatient capital IME payments, or current-year residents). We also excluded hospitals that charge using an all-inclusive rate and those in Puerto Rico, due to differences in their cost reporting.

- 38 The cost-related components of current policy that we used to standardize costs were geography (the geographic adjustment factor applied to base payment rates), patient severity (the average transfer-adjusted diagnosis related group or ambulatory payment classification weight per case across the hospital's cost reporting period, as calculated from claims), and unmeasured patient severity captured through outliers (as measured by the hospital's outlier payments as a share of base payments, plus 1).
- 39 Referring to CMS estimates in its 2012 outpatient prospective payment system (OPPS) rule, we estimated that 75 percent of each hospital's outpatient drug costs were for separately payable drugs. When using claims to calculate each hospital's OPPS cases and average case mix, we similarly excluded claims for separately payable drugs and devices.
- 40 We added 1 before taking the log (consistent with the current inpatient operating adjustment) because teaching intensity is 0 for nonteaching hospitals and the log of 0 is undefined.
- 41 The independent variables for other characteristics with payment adjustments under current policy were as follows: for inpatient operating models, (logged) adjustment factors for disproportionate share of low-income patients, new technology, additional payments to sole community and Medicare-dependent hospitals, and low volume; for inpatient capital models, (logged) adjustment factors for disproportionate share of low-income patients, and low volume; and for outpatient models, whether the hospital was a sole community hospital. As sensitivity tests, we also ran models constraining the coefficients on these policy adjustments to their values under current policy—which yielded similar teaching intensity coefficients—and models adding independent variables besides those under current policy (such as standby-service intensity and, in the outpatient PPS model, a disproportionate share adjustment)—which materially lowered the teaching intensity coefficients.
- 42 We categorized a hospital as under fiscal pressure if it had a median non-Medicare margin over the prior five years of less than 1 percent and growth in fund balances that would have been less than 1 percent if the Medicare margin was zero.
- 43 Because our independent variable is 1 plus teaching intensity, and not just teaching intensity, the coefficient is not a pure elasticity. For the results presented in this chapter, we took the average of the coefficients from the 2016 and 2017 regression models (which were within 0.03 of each other) and rounded to the nearest hundredth.
- 44 The resulting estimates of outpatient PPS base payments still include outlier payments, but these are limited to 1 percent of aggregate outpatient PPS payments and so would have a minimal effect on our results.
- 45 In accordance with the Bipartisan Budget Act of 2015, CMS has implemented lower outpatient PPS payment rates for services provided in some hospitals' off-campus provider-based departments. CMS intends for the lower outpatient PPS rates to approximate the rates paid in physician offices under the Medicare physician fee schedule, on average. For 2017 and 2018, the effects of this policy were limited and had a small effect on spending because the policy originally applied only to new off-campus hospital outpatient departments. However, CMS expanded this policy in 2019 so that hospitals must bill clinic visits provided in all off-campus settings at the lower outpatient PPS rate that approximates the physician fee schedule rate. The American Hospital Association challenged in court the policy CMS implemented in 2019 and the U.S. District Court for the District of Columbia vacated the policy for 2019. On December 12, 2019, the Department of Health and Human Services filed notices of appeal.

References

- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2010. Medicare program: Hospital outpatient prospective payment system and CY 2011 payment rates; ambulatory surgical center payment system and CY 2011 payment rates; payments to hospitals for graduate medical education costs; physician self-referral rules and related changes to provider agreement regulations; payment for certified registered nurse anesthetist services furnished in rural hospitals and critical access hospitals. Final rule. *Federal Register* 75, no. 226 (November 24): 72129–72580.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2009. Medicare program; changes to the hospital inpatient prospective payment system and updates to certain IPPS-excluded hospitals. *Federal Register* 74, no. 165 (August 27): 43768.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2007a. Medicare program: Changes to the hospital outpatient prospective payment system and CY 2008 payment rates, the ambulatory surgical center payment system and CY 2008 payment rates, the hospital inpatient prospective payment system and FY 2008 payment rates; and payments for graduate medical education for affiliated teaching hospitals in certain emergency situations; Medicare and Medicaid programs: Hospital conditions of participation; necessary provider designations of critical access hospitals. Final rule with comment. *Federal Register* 72, no. 227 (November 27): 66580–67225.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2007b. Medicare program; changes to the hospital inpatient prospective payment systems and fiscal year 2008 rates. Final rule. *Federal Register* 72, no. 162 (August 21): 47129–48175.
- Cotterill, P. G. 1992. Prospective payment for Medicare hospital capital: Implications of the research. *Health Care Financing Review* 1991, Suppl. (March): 79–86.
- Council on Graduate Medical Education. 2017. *COGME 23rd report: Towards the development of a national strategic plan for graduate medical education*. Washington, DC: COGME.
- Health Care Financing Administration, Department of Health and Human Services. 2000a. Medicare program; prospective payment system for hospital outpatient services. Interim final rule with comment period. *Federal Register* 65, no. 219 (November 13): 67798–67846.
- Health Care Financing Administration, Department of Health and Human Services. 2000b. Office of Inspector General; Medicare program; prospective payment system for hospital outpatient services. Final rule. *Federal Register* 65, no. 68 (April 7): 18434–18820.
- Health Care Financing Administration, Department of Health and Human Services. 1998a. Medicare program; changes to the hospital inpatient prospective payment systems and fiscal year 1999 rates. Final rule. *Federal Register* 63, no. 147 (July 31): 40954–41131.
- Health Care Financing Administration, Department of Health and Human Services. 1998b. Medicare program; prospective payment system for hospital outpatient services. Final rule. *Federal Register* 63, no. 73 (September 8): 47552–48036.
- Health Care Financing Administration, Department of Health and Human Services. 1991a. Medicare program; inpatient hospital prospective payment system; capital-related costs. Proposed rule. *Federal Register* 56, no. 40 (February 28): 8257–8680.
- Health Care Financing Administration, Department of Health and Human Services. 1991b. Prospective payment system for inpatient hospital capital-related costs. Final rule. *Federal Register* 56, no. 169 (August 30): 43358–43546.
- Health Care Financing Administration, Department of Health and Human Services. 1983. Medicare program; prospective payments for Medicare inpatient hospital services. Interim final rule with comment period. *Federal Register* 48, no. 171: 39752–39890.
- Health Care Financing Administration, Department of Health and Human Services. 1982. Medicare program; Medicare hospital reimbursement reforms: Limitations on reimbursable costs and the rate of hospital cost increases. Interim final rule with comment period. *Federal Register* 47, no. 190 (September 30): 43282–43338.
- Institute of Medicine. 2014. *Graduate medical education that meets the nation's health needs*. Washington, DC: National Academies Press.
- Institute of Medicine. 2009. *Committee on optimizing graduate medical trainee (resident) hours and work schedule to improve patient safety*. Washington, DC: National Academies Press.
- Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2014. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2010. *Report to the Congress: Aligning incentives in Medicare*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2007a. Comment letter to CMS on the proposed rule entitled: Medicare program; proposed changes to the hospital inpatient prospective payment systems and fiscal year 2008 rates. June 11.

Medicare Payment Advisory Commission. 2007b. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2003. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2002. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Nguyen, N. X., and S. H. Sheingold. 2011. Indirect medical education and disproportionate share adjustments to Medicare inpatient payment rates. *Medicare & Medicaid Research Review* 1, no. 4: E1–E19.

Prospective Payment Assessment Commission. 1989. *1990 adjustments to the Medicare prospective payment system*. Washington, DC: ProPAC. https://upload.wikimedia.org/wikipedia/commons/1/1c/Adjustments_to_the_Medicare_prospective_payment_system_-_report_to_the_Congress_%28IA_adjustmentstomed00unit_1%29.pdf.

U.S. House of Representatives. 1983. *House Ways and Means Committee report number 98–25*. Washington, DC: U.S. House of Representatives.

Wynn, B. O., R. Smalley, and K. M. Cordasco. 2013. *Does it cost more to train residents or replace them?* Santa Monica, CA: RAND Health.

CHAPTER

7

Medicare vaccine coverage and payment

R E C O M M E N D A T I O N

7

The Congress should:

- cover all appropriate preventive vaccines and their administration under Part B instead of Part D without beneficiary cost sharing and
- modify Medicare's payment rate for Part B–covered preventive vaccines to be 103 percent of wholesale acquisition cost, and require vaccine manufacturers to report average sales price data to CMS for analysis.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

Medicare vaccine coverage and payment

Chapter summary

Medicare covers vaccines under Part B and Part D. Part B covers vaccines for influenza, pneumococcal disease, hepatitis B (for patients at high or intermediate risk), and coronavirus disease 2019 (COVID-19), as well as other vaccines when used to treat an injury or direct exposure to a disease. (For COVID-19 vaccine doses purchased directly by the federal government, Medicare is responsible for paying for the vaccine's administration, not the vaccine itself.) Part D covers all commercially available preventive vaccines not covered by Part B, such as vaccines for shingles and hepatitis A. For Part B–covered preventive vaccines, patients face no cost sharing for the vaccine and its administration, while beneficiaries may face out-of-pocket costs for Part D–covered vaccines depending on the cost-sharing requirements of their plan.

At Part D's implementation in 2006, physicians had two major concerns related to Part D coverage of vaccines: (1) Most physicians had no direct way to bill Part D plans for vaccines they purchased to provide to patients, and (2) if beneficiaries had to pay the full payment rate for vaccines up front and then seek reimbursement from their plans, the out-of-pocket cost might discourage them from receiving the vaccines. Because of these concerns, in 2007, the Commission recommended that all preventive vaccine coverage be moved to Part B.

In this chapter

- Medicare coverage of vaccines under Part B and Part D
- The CDC's vaccine recommendations and uptake among Medicare beneficiaries
- Medicare spending for vaccines
- How Medicare pays for vaccines under Part B and Part D
- Improving Medicare coverage and payment for preventive vaccines
- Recommendation

While some initial Part D billing concerns have been alleviated, there continues to be a strong rationale for moving vaccine coverage from Part D to Part B. More Medicare beneficiaries are enrolled in Part B than in Part D. High cost sharing in some Part D plans may deter some beneficiaries from seeking recommended vaccines. A variety of health care providers bill Medicare Part B, offering more potential settings in which to vaccinate beneficiaries. Finally, beneficiaries and even some providers can find it confusing to understand which vaccines are covered by Part B versus Part D.

The Commission is concerned, however, about Medicare Part B's payment method for preventive vaccines. Medicare Part B pays for most preventive vaccines at a rate of 95 percent of the average wholesale price (AWP). (Certain types of providers, such as hospitals, are paid reasonable cost—a payment that is an estimate of the provider's vaccine costs based on Medicare cost report data.) AWP is a list price that may have little relationship to market prices. Paying for Part B-covered vaccines based on wholesale acquisition cost (WAC)—that is, the price at which the manufacturer sells the vaccine to the wholesaler—or average sales price (ASP)—the average price realized by the manufacturer for the vaccine net of rebates, discounts, and other price concessions—would improve payment accuracy. Medicare's AWP-based payment rates for Part B-covered vaccines significantly exceed WAC. Shifting the basis of payment to 103 percent of WAC would generate savings for beneficiaries and taxpayers and bring payment rates closer to market prices than the current AWP-based rates.

Although WAC is a better measure of drug prices than AWP, WAC does not incorporate any discounts or rebates that may be available. Ultimately, a payment rate based on ASP might be most appropriate because it would reflect the average market price rather than an undiscounted wholesale price. However, because ASP is an average, we do not know how much the acquisition prices for vaccines vary across purchasers such as physicians and pharmacies. In addition, it is unclear how the two-quarter lag in ASP data would affect Medicare payment rates for vaccines, especially given the seasonality of the influenza vaccine. Therefore, more study is needed before moving to an ASP-based payment rate for vaccines.

To improve coverage and payment of preventive vaccines under Part B, the Commission recommends that the Congress:

- cover all appropriate preventive vaccines and their administration under Part B instead of Part D, without cost sharing; and
- establish a payment rate of 103 percent of WAC for Part B preventive vaccines, which would moderately reduce Medicare payment rates for Part B vaccines. At

the same time, the Commission's recommendation would require manufacturers to report ASP data for vaccines so that CMS could study how payment rates would differ if they were based on ASP rather than WAC.

This recommendation would improve beneficiary access to vaccines by eliminating cost sharing and by facilitating the administration of vaccines in a variety of settings, potentially creating more opportunities for beneficiaries to be vaccinated through increased convenience (e.g., physical availability and geographical accessibility). By establishing payment rates that better reflect providers' purchase prices, the recommendation would moderately reduce Medicare payment rates for Part B vaccines while keeping vaccine payment rates at a level that should be accessible to all immunizers. At the same time, by requiring manufacturers to report ASP data for vaccines to CMS, the recommendation would provide CMS with the data to analyze the implications of moving to an ASP-based payment amount, building the knowledge base to consider ASP-based payment rates in the future. Once the study is completed, the Commission urges the Secretary to make the results of the analysis public, and seek statutory authority to adopt an ASP-based payment rate for preventives vaccines if it would improve payment accuracy. ■

Medicare coverage of vaccines under Part B and Part D

Since 2020, the global coronavirus pandemic has had catastrophic consequences for many Medicare beneficiaries and affected health care delivery for all. The coronavirus pandemic has raised awareness of how developing and delivering vaccines against infectious diseases protects both population health and the economy. Developing safe and effective vaccines and deploying them widely and rapidly are critical for preserving health, reducing burden on the health care delivery system, avoiding medical expenses, and strengthening the economy. For these reasons, the Congress directed nearly \$10 billion in funding for development of vaccines and treatments for the coronavirus (referred to as coronavirus disease 2019 (COVID-19)) through the Coronavirus Aid, Relief, and Economic Security (CARES) Act and other funding.¹

As of April 2021, three COVID-19 vaccines have received Emergency Use Authorization in the U.S., and additional vaccines are being tested in clinical trials and considered by the Food and Drug Administration (FDA). For the current coronavirus public health emergency, the federal government is directly purchasing hundreds of millions of vaccine doses and paying for their distribution.²

Medicare's coverage of vaccines is split across Part B and Part D. Part B covers certain preventive vaccines that are explicitly listed in statute—influenza, pneumococcal, hepatitis B (for intermediate- and high-risk populations), and COVID-19. In addition, Part B covers vaccines that are directly related to the treatment of an injury or direct exposure to a disease or a condition. Part D plans cover all commercially available preventive vaccines not otherwise covered under Part B, such as the shingles vaccine.

The focus of this chapter is on preventive vaccines. Treatment vaccines—which are immunotherapies used to treat a condition like cancer and which Medicare covers and pays for like other drugs and biologics—are outside the scope of this chapter. The use of *vaccine* in this chapter refers to “preventive vaccine” unless otherwise noted.

Before implementation of Part D in 2006, Medicare covered preventive vaccines only if they were explicitly listed in statute. The lack of comprehensive coverage for

preventive vaccines under Medicare stems from Section 1862 of the Social Security Act, which specifies that “no payment may be made under part A or part B for any expenses incurred for items or services which . . . are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.” Over time, the statute has been amended to provide Medicare Part B coverage of specific preventive vaccines—for pneumococcal disease (in 1981), hepatitis B for patients at high or intermediate risk (in 1984), and seasonal influenza (in 1993). In 2020, the CARES Act added COVID-19 vaccines to that list, requiring Medicare to cover the cost of such vaccines under Part B. As with the other three Part B preventive vaccines, Medicare beneficiaries face no cost sharing for either the vaccine or its administration (Table 7-1, p. 246).³ Part B also covers certain other vaccines, but only in limited circumstances when clinicians prescribe them to treat an injury or direct exposure to a disease or condition (e.g., hepatitis A; rabies; tetanus and diphtheria (Td); and tetanus, diphtheria, and pertussis (Tdap)).

After Part D was established, Medicare's coverage of preventive vaccines expanded. Part D covers all commercially available preventive vaccines (including the shingles vaccine) that Part B does not cover. Part D plans must cover both the vaccine ingredient cost and an administration fee (if any). If a Part D plan charges cost sharing, it must charge the enrollee a single amount for the vaccine and its administration. Part D plans decide where to place vaccines on their formularies, and they charge differential cost-sharing amounts depending on the applicable formulary tier. As a result, cost-sharing amounts for the same vaccine can vary across plans. Plans can also use tools such as prior authorization, but few do so. CMS encourages the use of certain recommended vaccines in Medicare Advantage (MA) plans by including the share of enrollees who obtained a vaccine in the MA quality star metrics (influenza) and display measures (pneumococcal).⁴ CMS has also encouraged all Part D plans (both stand-alone prescription drug plans (PDPs), in which many fee-for-service (FFS) beneficiaries choose to enroll, and MA prescription drug plans (MA-PDs)) to include a vaccine tier on their formularies with zero cost sharing, but very few plans do so (Centers for Medicare & Medicaid Services 2019a). As a result, in 2020, all PDP enrollees and over 90 percent of MA-PD enrollees are required to pay cost sharing for vaccines.

**TABLE
7-1****Medicare's coverage of and payment for preventive vaccines**

	Part B	Part D
Coverage	Only preventive vaccines that are explicitly listed in the statute: influenza, pneumococcal, hepatitis B*, and COVID-19	All preventive vaccines not covered under Part B, primarily herpes zoster (shingles)
Setting in which preventive vaccine is administered	Administered in a wide range of settings, including mass immunizers (such as retail pharmacies), physician offices, hospitals, SNFs, dialysis facilities, at home during home health visits, and others	Administered primarily by retail pharmacies
How program payment is set	For most providers, 95 percent of AWP**	Plan-negotiated rate
How beneficiary cost sharing is set	No cost sharing for vaccine or administration of vaccine	Cost-sharing amounts for vaccine and administration of vaccine may vary based on plan, phase in benefit, and low-income subsidy status

Note: COVID-19 (coronavirus disease 2019), SNF (skilled nursing facilities), AWP (average wholesale price).

*Under Part B, hepatitis B vaccine is covered for beneficiaries of high or intermediate risk.

**All providers are paid 95 percent of AWP with the exception of hospitals (that are not part of the Indian Health Service), home health agencies, hospital-based dialysis facilities, rural health clinics, and Federally Qualified Health Centers, which are paid reasonable cost.

Source: MedPAC analysis of statute and CMS's regulations.

The CDC's vaccine recommendations and uptake among Medicare beneficiaries

The Centers for Disease Control and Prevention (CDC) sets recommendations and objectives for vaccine use among specific populations, including the elderly, based on input from the Advisory Committee on Immunization Practices (ACIP). ACIP consists of 15 experts in fields associated with immunization who have been selected by the Secretary of Health and Human Services to provide advice and guidance to the Secretary, the Assistant Secretary for Health, and the CDC on the most effective means to prevent vaccine-preventable diseases. ACIP advises the CDC director on population groups and circumstances for which a vaccine is recommended as well as when it is contraindicated. If the director adopts ACIP's advice, it is published as an official CDC recommendation and included in the schedules of childhood and adult immunizations that are designed to assist states with public health (Centers for Disease Control and Prevention

2018). To make such recommendations, ACIP reviews the quality of evidence about the safety and efficacy of vaccines, the burden and epidemiology of a disease, and cost-effectiveness and other economic analyses, as well as implementation considerations.

ACIP's recommendations are especially important for Medicare beneficiaries, who have a higher disease burden than the general population. In that sense, recommended vaccines may be more likely to improve quality of life and prevent hospitalizations and medical costs for Medicare beneficiaries than for other individuals. ACIP currently recommends that adults age 65 and older receive the following vaccines:

- An annual seasonal influenza vaccination unless contraindicated.⁵
- A one-time dose of 23-valent pneumococcal polysaccharide vaccine (PPSV23, also known as Pneumovax 23) for adults ages 65 and older.

Previously, ACIP had also recommended a one-time dose of a second pneumococcal vaccine—13-valent pneumococcal conjugate vaccine (PCV13, also known as Prevnar 13)—for all individuals ages 65 and older. However, ACIP has modified that recommendation and now suggests the use of shared decision-making to determine whether to furnish a PCV13 vaccine to an individual age 65 or older without an immunocompromising condition (Matanock et al. 2019).⁶

- Two doses of recombinant zoster vaccine (Shingrix) in immunocompetent adults ages 50 or older.⁷
- A phased approach for the initial distribution of COVID-19 vaccines, with residents of long-term care facilities offered vaccination first (in Phase 1a of the vaccination program), followed by persons aged 75 years or older (in Phase 1b) and by persons aged 65 to 74 years and persons ages 16 to 64 with chronic medical conditions associated with higher risk for severe COVID-19 (in Phase 1c; some in this age group may be Medicare beneficiaries due to disability or end-stage renal disease (ESRD)) (Dooling et al. 2021). (This approach reflects the initial recommendation for COVID-19 vaccine distribution made by ACIP in December 2020).

For Medicare beneficiaries who are younger than age 65 or who have specific conditions, ACIP has more tailored recommendations. For example, ACIP recommends that all persons with HIV be vaccinated routinely with hepatitis A vaccine.

Vaccination rates among Medicare beneficiaries have increased but have not reached goals

In 2010, the Department of Health and Human Services and other stakeholders developed the Healthy People 2020 framework to set national objectives for, among other priorities, vaccination to help avoid preventable diseases. Goals include increasing rates of influenza and pneumococcal vaccination among individuals ages 65 and older to 90 percent and increasing the rate for shingles vaccination among adults ages 60 and older to 30 percent (Office of Disease Prevention and Health Promotion 2020). While more Medicare beneficiaries have been vaccinated in recent years, some rates (influenza and pneumococcal vaccination) have not reached those objectives, and there are sizable differences in vaccination

rates by race and ethnicity. The text box (pp. 250–251) discusses factors associated with disparities in vaccination rates among Medicare beneficiaries.

Take-up rates of seasonal influenza vaccine among Medicare beneficiaries

According to the CDC’s Behavioral Risk Factor Surveillance System (BRFSS) survey, influenza vaccination rates among adults ages 65 and older were about 68 percent in the 2018 to 2019 flu season and 60 percent in the 2017 to 2018 flu season (Centers for Disease Control and Prevention 2019b). Another source, the Medicare Consumer Assessment of Healthcare Providers and Systems[®] survey, reports an influenza vaccination rate in 2018 of 74 percent for FFS beneficiaries and 75 percent for MA beneficiaries (Centers for Medicare & Medicaid Services 2019d). By contrast, using Part B claims data for the 2018 to 2019 flu season, the Commission found that Medicare paid for influenza vaccinations for about 50 percent of FFS beneficiaries of all ages and 54 percent of beneficiaries ages 65 and older. The lower vaccination rates in the claims data compared with survey data may be the result of several factors. The claims data likely undercount influenza vaccinations received by Medicare beneficiaries because entities that offer free vaccinations are not permitted to bill Medicare and because Medicare-covered vaccines furnished by Federally Qualified Health Centers (FQHCs) and rural health clinics (RHCs) are not fully reflected in the claims data. In addition, survey data may not be fully accurate. For example, the BRFSS survey asks individuals whether they received an influenza vaccination in the last 12 months (and if so, which month), but it does not verify the responses with medical records (Centers for Disease Control and Prevention 2019a).

Based on claims data, influenza vaccination rates for FFS beneficiaries vary by age, race and ethnicity, dual-eligible (Medicare and Medicaid coverage) status, and ESRD status (Table 7-2, p. 248). In 2018 to 2019, vaccination rates increased with age, ranging from 31 percent for beneficiaries under age 65 to 60 percent for those ages 80 and older. A higher share of White beneficiaries than Black and Hispanic beneficiaries received a vaccination. Vaccination rates were lower for dually eligible beneficiaries than for other FFS beneficiaries. Beneficiaries with ESRD had a higher than average influenza vaccination rate (70 percent).

**TABLE
7-2****FFS beneficiaries who received the influenza vaccine are more likely to be older, White or Asian American, not eligible for Medicaid, and have ESRD****Share of FFS beneficiaries who received a Part B-covered influenza vaccine in 2018-2019**

All	50%
Age	
<65	31
65-69	46
70-79	55
80+	60
Race	53
White	35
Black	30
Hispanic	49
Asian	48
Other	
Dual-eligibility status	
Dual eligible	38
Non-dual eligible	53
ESRD status	
ESRD	70
Non-ESRD	50

Note: FFS (fee-for-service), ESRD (end-stage renal disease). Analysis of 2018 to 2019 flu season, spanning July 2018 through May 2019. Data include beneficiaries who had FFS Part B coverage during that period. Beneficiaries were assigned to the dual-eligible and ESRD categories if they had that status for at least one month during this period.

Source: MedPAC analysis of Medicare claims and enrollment data.

Take-up rates of pneumococcal vaccine among Medicare beneficiaries

According to the BRFSS survey, in 2018, the share of adults ages 65 and older who reported ever receiving a pneumococcal vaccination was 72 percent, similar to prior years (74 percent in 2017 and 72 percent in 2016). A CDC analysis of 19 years of Medicare claims data found that about 59 percent of FFS beneficiaries ages 65 and older received at least one pneumococcal vaccine between 1999 and 2017 (Table 7-3) (Centers for Disease Control and Prevention 2019c). As with influenza vaccination rates, claims data likely understate pneumococcal vaccination rates because some vaccinations for Medicare

beneficiaries are not reflected in these data. Take-up rates of the pneumococcal vaccine vary by age, race, and ethnicity (Table 7-3). In addition to being recommended for all individuals ages 65 and older, pneumococcal vaccinations are recommended for individuals who are immunocompromised or have certain chronic conditions. CDC analysis found that nearly two-thirds of elderly beneficiaries with those conditions had received at least one pneumococcal vaccination.

ACIP's 2014 recommendation that adults ages 65 and older receive Prevnar 13 presents an opportunity to observe a newly recommended vaccine's speed of take-up. By 2017, roughly three years after ACIP's

**TABLE
7-3****FFS beneficiaries who receive the pneumococcal vaccination are more likely to be older and have an immunocompromising or chronic condition****Share of FFS beneficiaries ages 65+ who received a Part B-covered pneumococcal vaccination in 2017 or earlier**

	Any pneumococcal vaccine	Pneumovax 23	Prevnar 13
All	59%	43%	40%
Age			
65–69	45	25	35
70–74	60	43	42
75–79	67	54	44
80–84	71	60	43
85+	70	59	40
Race			
White	61	45	42
Black	45	33	26
Hispanic	42	32	20
Asian	56	42	32
American Indian/Alaskan Native	54	36	33
Other	55	40	36
Immunocompromising or chronic condition			
Yes	64	47	42
No	37	22	27

Note: FFS (fee-for-service). Data reflect a Centers for Disease Control and Prevention analysis of Medicare FFS claims data, which examined pneumococcal vaccination rates among Medicare beneficiaries continuously enrolled in Medicare FFS from September 2016 to September 2017, with a retrospective review of their claims history (as far back as 1999) to identify whether they received a Medicare FFS–paid pneumococcal vaccination.

Source: Centers for Disease Control and Prevention 2019c.

recommendation, the CDC’s analysis indicates that about 40 percent of elderly FFS beneficiaries had received the vaccine. In addition, Commission analysis found that about half of the elderly beneficiaries who were continuously enrolled in the FFS program between 2014 and 2018 had received Prevnar 13 by 2018 (data not shown).

Take-up rates of shingles vaccine among Medicare beneficiaries

According to data from the National Health Interview Survey, 35 percent of adults ages 60 and older received the shingles vaccine by 2018 (Terlizzi and Black 2020). Our analysis of Part D data found a similar vaccination rate for

a cohort of beneficiaries who were ages 60 and older and had Part D coverage in 2010. Among the roughly 770,000 beneficiaries in the cohort, 32 percent had received either Shingrix or Zostavax by December 2018 (Figure 7-1, p. 252).

Between 2010 and 2018, shingles vaccination rates increased for all subgroups of beneficiaries that we examined.⁸ However, some subgroups, such as beneficiaries receiving Part D’s low-income subsidy (LIS) or those belonging to a racial or ethnic minority, had lower vaccination rates (Figure 7-1, p. 252). Beneficiaries who received the LIS were less likely to have received the shingles vaccine compared with the rest

Disparities in vaccination rates and vaccine hesitancy

The coronavirus pandemic has disproportionately affected the elderly (Freed et al. 2020). Black and Hispanic populations have also experienced higher incidences of coronavirus disease 2019 (COVID-19) cases and rates of hospitalization and death (Centers for Disease Control and Prevention 2020a). Achieving high rates of vaccination against COVID-19 will be very important for the Medicare program and the U.S. as a whole. Given the illness burden of COVID-19, increasing the uptake of influenza vaccination will also “help ameliorate the compounding of illness and health care system stress caused by the additional circulation of another potentially life-threatening viral respiratory disease” (Grohskopf et al. 2020).

However, multiple studies have found racial and ethnic disparities in vaccination rates among Medicare beneficiaries (Hall et al. 2020, Williams et al. 2017). Our own analysis found that vaccination rates for Black and Hispanic beneficiaries are consistently below those for White beneficiaries for vaccines recommended

for the Medicare population. We observed those differences even when there was no cost sharing (as for pneumococcal and influenza vaccines covered under Part B) or minimal cost sharing (as for the shingles vaccine under Part D for low-income subsidy beneficiaries). Other factors beyond cost sharing also play a role in explaining differences among vaccination rates.

Vaccine hesitancy is complex, and the reasons vary widely (Gallagher 2019, MacDonald 2015). An individual’s reluctance to get vaccinated may be rooted in misconceptions about the benefits of mass immunization, perceived health risk of a particular vaccine, or a general mistrust of the health care system (Schaffer DeRoo et al. 2020).⁹ A recent poll suggests that as of February 2021, about 30 percent of the U.S. adult population may be unwilling to get vaccinated for COVID-19 (Funk and Tyson 2021). However, the share of adults reporting an unwillingness to get vaccinated has declined in recent months from 39 percent in November 2020. The poll also found that a greater

(continued next page)

of Part D beneficiaries (25 percent vs. 35 percent). Black beneficiaries had the lowest vaccination rate (18 percent), followed by Hispanic beneficiaries (23 percent).

Medicare spending for vaccines

Medicare payments for vaccines are set very differently under Part B and Part D. In 2019, combined Part B and Part D spending for preventive vaccines (including beneficiary cost sharing for Part D vaccines) totaled nearly \$2.3 billion, and spending for their administration totaled about \$490 million. To the extent that Part D plans receive rebates from vaccine manufacturers, those rebates would not be accounted for in these spending estimates.

Part B–covered vaccines

In 2019, Part B–covered 16.6 million doses of seasonal influenza vaccines and 3.9 million doses of pneumococcal vaccines. In addition, Part B covered the costs of roughly 300,000 doses of hepatitis B vaccine for beneficiaries who were at high or intermediate risk for the disease. In 2019, Medicare payments for influenza, pneumococcal, and hepatitis B vaccines totaled nearly \$1.4 billion (Table 7-4, p. 253). In addition to the three vaccines shown in Table 7-4, Part B also covers certain vaccines when used to treat an injury or direct exposure to a disease (e.g., hepatitis A, rabies, and tetanus), with 2019 Part B spending on these vaccines totaling about \$13 million. Total spending on administration fees for Part B vaccines totaled about \$365 million (with nearly all of this sum for administration of influenza, pneumococcal, and hepatitis B vaccines) (data

Disparities in vaccination rates and vaccine hesitancy (cont.)

share of Black adults than other racial and ethnic groups reported an unwillingness to get vaccinated, but the share of Black adults unwilling to get vaccinated decreased from 58 percent in November 2020 to 39 percent in February 2021. Hesitancy to get the COVID-19 vaccine varies demographically and by an individual's place of residence (Funk and Tyson 2021). Intent to get vaccinated remains higher among those ages 65 and older than among younger adults (Funk and Tyson 2021). By place of residence, individuals residing in suburban (73 percent) areas and urban (70 percent) areas are more likely than those in rural areas (60 percent) to say they have been, or plan to get, vaccinated for COVID-19 (Funk and Tyson 2021).

There is no modern-day policy mechanism, such as school-entry requirements, to drive routine adult immunizations (Hughes et al. 2019). Additionally, tracking vaccine administration for adults is difficult because they may see many providers over their lifetime as they change jobs, switch health plans, or move to new locales (Hughes et al. 2019).

There are limited data on how to effectively address vaccine hesitancy or increase vaccination rates among undervaccinated populations (Flowers et al. 2008, Jarrett et al. 2015). Multiple strategies would likely be needed to increase vaccination rates for Medicare beneficiaries. Policymakers would need to implement educational campaigns to increase awareness and acceptance of COVID-19 vaccines, aimed at both beneficiaries and health care providers (Flowers et al. 2008, Schaffer DeRoo et al. 2020). Buy-in from clinicians in minority communities can have positive influence on vaccine acceptance (Hall et al. 2020). One review of studies found that the most effective interventions were tailored to the target population and their reasons for hesitancy (Jarrett et al. 2015). For Medicare beneficiaries, policymakers may want to consider strategies at both the federal and state levels to increase immunization rates, such as the use of patient and provider reminders and making providers accountable for vaccination rates (Flowers et al. 2008).¹⁰ ■

not shown). The average administration payment per Part B vaccine was about \$18 in 2019.

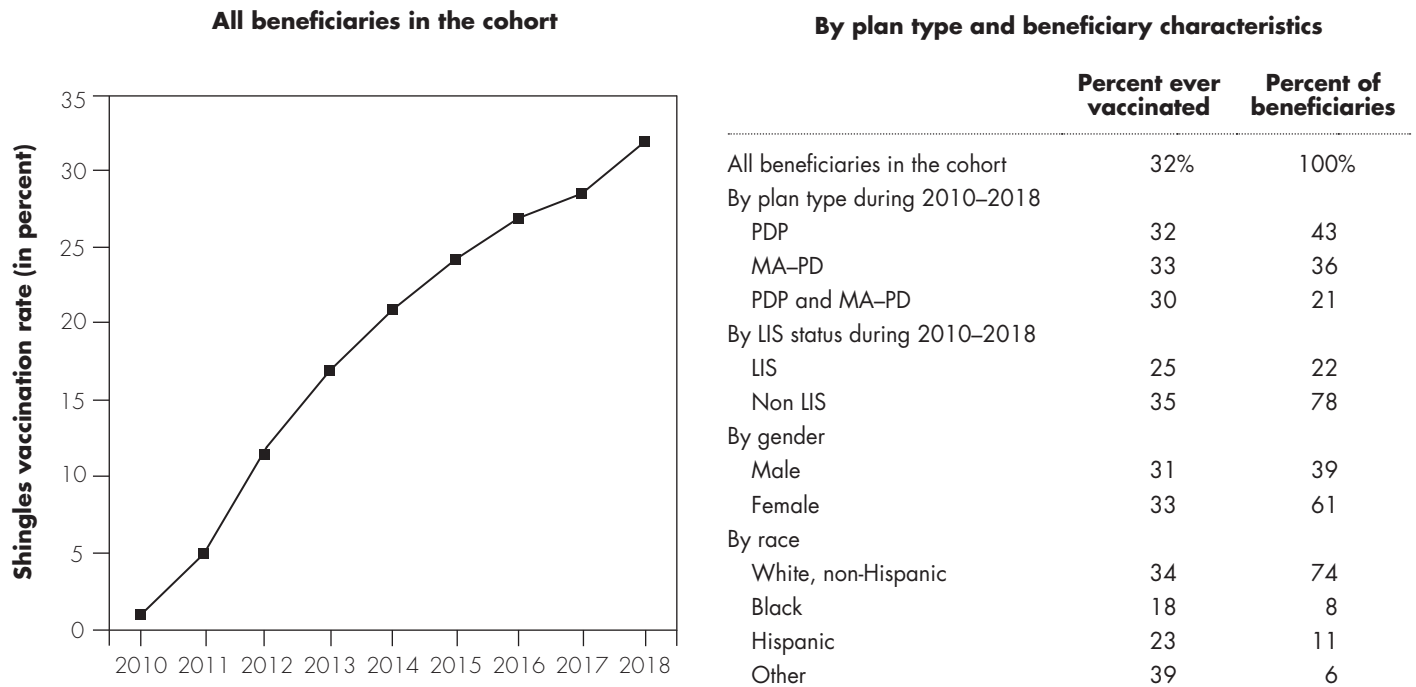
Part B–covered vaccines are administered in a variety of settings (Figure 7-2, p. 253). For influenza vaccines, mass immunizers such as pharmacies play a large role, accounting for 48 percent of all vaccinations in 2019. For pneumococcal vaccines, just over half of vaccinations occur in the physician office setting (53 percent), while mass immunizers and hospitals also play a significant role. Because Part B coverage of the hepatitis B vaccine is limited to beneficiaries at medium and high risk, most hepatitis B vaccines are furnished by ESRD facilities since the ESRD population is one of the groups designated as at risk for hepatitis B. While less common, other facilities such as skilled nursing facilities, public health clinics, and other providers (e.g., home health agencies) also play a role in furnishing Part B vaccines.

Part D–covered vaccines

In 2019, 7 million vaccine doses were administered and paid through Part D at a total cost of about \$925 million including beneficiary cost sharing (Table 7-5, p. 254). Beneficiaries were liable for about 40 percent (\$370 million) of Part D vaccine costs in 2019, and the Medicare program covered an additional \$70 million in cost sharing for beneficiaries receiving the low-income subsidy (data not shown). Shingles (herpes zoster) vaccines (Shingrix and Zostavax) made up over 80 percent of claims and over 90 percent of all Part D spending on vaccinations. Part D also covered vaccines for tetanus and diphtheria, hepatitis A, and hepatitis B (for individuals who do not meet the Part B coverage criteria). Vaccine administration fees totaled about \$120 million, and the average administration payment per vaccination was about \$18 in 2019 (data not shown).

**FIGURE
7-1**

Between 2010 and 2018, shingles vaccination rate increased among the cohort of Part D enrollees newly joining the program in 2010



Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy). The analysis includes all beneficiaries who were age 60 or older and were enrolled in Part D in 2010. Components in the “Percent of beneficiaries” column may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Part D prescription drug event data and Medicare enrollment files from CMS.

Between 2018 and 2019, utilization and spending for the shingles vaccine grew substantially, with the number of Part D–covered doses of shingles vaccine increasing from 3.1 million to 5.8 million, and Part D gross spending rising from \$450 million to \$857 million (Table 7-5, p. 254; 2018 data not shown). Growth in use of the shingles vaccine in 2019 in part likely reflects an easing of a shortage of the Shingrix vaccine. After Shingrix was launched in late 2017, demand for the product was reported to initially exceed supply (Castia Rx 2019).

The vast majority of vaccines covered under Part D are administered in retail or community pharmacies. In 2019, more than 95 percent of vaccines were furnished in those settings. Most vaccine claims are submitted electronically by pharmacies or providers through clearinghouse platforms. In 2019, only a small share of claims were for vaccines administered out of network, for example, at physician offices (less than 3 percent of the claims

by providers and less than 1 percent of the claims by beneficiaries).

Cost sharing for vaccines covered by Part D plans

We analyzed data for the shingles vaccine to assess cost sharing for Part D vaccines since that vaccine accounted for over 80 percent of Part D–covered vaccine doses in 2019. That year, nearly all of the claims for shingles vaccines were for Shingrix.¹¹ Formulary tier placement information reported on the claims indicates that Shingrix was most frequently placed on a brand or preferred brand tier (about 53 percent), followed by a nonpreferred brand tier (about 30 percent). Less than 1 percent of the claims were for prescriptions in which the plan placed the vaccine on a \$0 copay vaccine tier.

Many plan sponsors use fixed copayments for generic and preferred brand-tier drugs filled during the initial coverage phase (ICP) of Part D’s benefit (Medicare

**TABLE
7-4****Part B spending for influenza, pneumococcal, and hepatitis B vaccines, 2019**

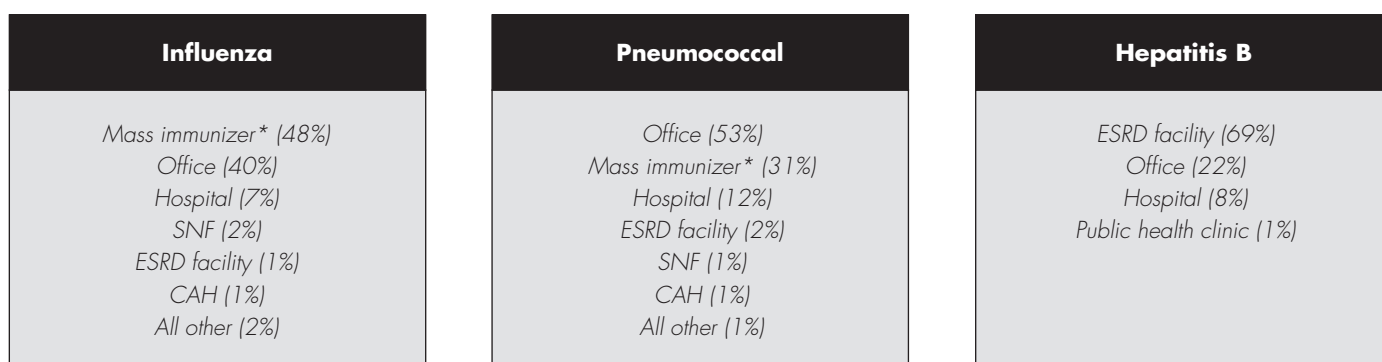
	Part B FFS spending		Doses	
	Millions of dollars	Percent	Millions of doses	Percent
Influenza	\$729	54%	16.6	80%
Pneumococcal	593	44	3.9	19
Hepatitis B	39	3	0.3	2
Total	1,361	100	20.9	100

Note: FFS (fee-for-service). Included in the payment totals are roughly \$111 million in payments to providers paid reasonable cost based on the payment amounts reported on claims. Any adjustment to these payments that occurred at cost report settlement are not included in these totals. Data exclude vaccines furnished by Federally Qualified Health Centers (FQHCs) and rural health clinics (RHCs), which are paid for influenza and pneumococcal vaccinations only through the cost report and not through claims. In cost report year 2019, we estimate FQHCs and RHCs furnished approximately 630,000 influenza vaccines and 200,000 pneumococcal vaccines to Medicare beneficiaries based on cost report data currently available; RHC and FQHC vaccine numbers may be understated due to delayed cost reporting by a small share of providers. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare FFS claims.

Payment Advisory Commission 2019). For Shingrix, a two-dose vaccine, the median copayment per dose filled by Part D enrollees without the LIS during the ICP was \$60 for PDPs and \$45 for MA-PDs in 2019. However, cost-sharing amounts varied considerably, from \$0 at the

10th percentile to \$167 at the 90th percentile, reflecting differences in benefit design across plan sponsors and across benefit phases (Table 7-6, p. 255). For example, an enrollee in a plan with a deductible may have had to pay the full retail cost of the vaccine (about \$146 per dose in 2019), in addition to any cost sharing they may have owed

**FIGURE
7-2****In 2019, most Part B preventive vaccines were administered by mass immunizers and in physician offices**

Note: SNF (skilled nursing facility), ESRD (end-stage renal disease), CAH (critical access hospital). Analysis of Medicare carrier and institutional claims. Examples of place of service from carrier-billed claims include office, mass immunizer, and public health clinic. Examples of type of bill from institutional claims include hospital (inpatient or outpatient), SNF, ESRD facility, and CAH. Components may not sum to totals due to rounding.

*"Mass immunizer" refers to nontraditional Medicare providers (e.g., pharmacists) that enroll in Medicare for the purposes of administering influenza and pneumococcal vaccinations. Mass immunizers can also include traditional Medicare providers who enroll as mass immunizers to utilize the simplified vaccine roster billing permitted for mass immunizers.

Source: MedPAC analysis of Medicare claims data.

**TABLE
7-5****Vaccines administered and paid through Part D, 2019**

	Gross spending		Doses	
	Millions of dollars	Percent	Millions of doses	Percent
Herpes zoster (shingles)	\$857	93%	5.8	83%
Tetanus/diphtheria*	36	4	0.8	12
Hepatitis A/B	21	2	0.3	4
Other**	11	1	0.1	2
Total	925	100	7.0	100

Note: Gross spending includes all payments to pharmacies for ingredient costs, dispensing fees, and sales tax and includes beneficiary cost sharing. Gross spending does not include vaccine administration costs, which totaled \$123 million. Percentages may not sum to 100 percent due to rounding.

*Includes vaccines that also provide protection against pertussis.

**Examples of other vaccines covered under Part D include vaccines against measles, mumps, and rubella; meningitis B; meningococcal meningitis; and haemophilus B influenzae.

Source: MedPAC analysis of Part D prescription drug event data and Medicare enrollment files from CMS.

for vaccine administration. Most Part D plans also use a percentage coinsurance in the coverage gap rather than fixed-dollar copayments.

Because Shingrix has a median out-of-pocket cost of about \$50 per dose and requires two doses given a few months apart, the cost may pose a barrier to vaccination for Part D enrollees who do not receive the LIS (Galewitz 2020, Yan et al. 2018). In 2018, the vaccination rate for Shingrix averaged about 4 percent across all Part D enrollees. The vaccination rate, however, did not appear to be related in a systematic manner to the typical cost-sharing amounts charged by plans. Instead, we found greater disparities in vaccination rates by LIS status and by race and ethnicity, with Black beneficiaries least likely to receive a Shingrix vaccination in 2018 (1.7 percent) followed by Hispanic beneficiaries (2.3 percent) compared with nearly 4.5 percent among the White, non-Hispanic beneficiaries.

How Medicare pays for vaccines under Part B and Part D

As shown in Table 7-1 (p. 246), most preventive vaccines covered under Part B are paid based on the product's average wholesale price (AWP). Under Part D, payment is

based on each plan's negotiated payment. While there is no beneficiary cost sharing for preventive vaccines under Part B, cost sharing under Part D varies across plans and benefit phases (see text box, pp. 258–259, for a summary of the differences between the processes that immunizers follow to bill under Part B and Part D).

Part B-covered vaccines

Medicare pays for most doses of Part B vaccines, such as those furnished in physician offices and mass immunizer settings, at a rate of 95 percent of AWP (while certain settings such as hospitals are paid reasonable cost).¹² AWP is a list price, often compared with a “sticker price,” that does not represent actual market prices. The use of AWP is a departure from the payment method for other Part B drugs and biologics, which is based on the average sales price (reflecting the average price realized by the manufacturer for sales to all purchasers net of rebates, discounts, and price concessions, with certain exceptions). Because AWP is a list price, Medicare's payment rate at 95 percent of AWP has little relationship to providers' costs to acquire the vaccine.

How Part B vaccines are assigned to billing codes affects Medicare's payment rates and price competition among similar products.¹³ When a billing code contains only one manufacturer's vaccine, Medicare pays 95 percent of the

**TABLE
7-6****Cost-sharing amounts for Shingrix ranged from \$0 to over \$160 per dose, 2019**

	Mean	Median	Percentile of the distribution			
			10th	25th	75th	90th
All Shingrix claims	\$68	\$47	\$0	\$30	\$84	\$167
Shingrix claims for PDP enrollees						
LIS	90	79	9	47	161	171
Without LIS	74	60	0	30	128	168
Shingrix claims for MA-PD enrollees						
LIS	82	47	9	41	160	172
Without LIS	51	45	0	30	47	144

Note: PDP (prescription drug plan), LIS (low-income subsidy), MA-PD (Medicare Advantage–Prescription Drug [plan]). Cost-sharing amounts for LIS enrollees include amounts covered by the LIS. LIS enrollees paid between \$0 and \$8.50 (maximum LIS copay amount set by law for 2019).

Source: MedPAC analysis of Part D prescription drug event data and Medicare enrollment files from CMS.

AWP established by that manufacturer for the product.¹⁴ For billing codes that contain multiple manufacturers' vaccines, Medicare pays 95 percent of the lowest AWP across the different manufacturers' products. In general, for Part B vaccines that have their own billing code, there is little constraint on manufacturers' ability to increase AWP and Medicare's payment rate over time. When vaccines from multiple manufacturers share a billing code, the use of the lowest AWP across the products may provide some constraint on price increases. As shown in Table 7-7 (p. 256), AWP inflation has been greatest for vaccines where a single manufacturer's product has its own billing code, while AWP inflation has been modest for vaccines where multiple manufacturers' products share a billing code. For example, among the top six influenza vaccines in 2019, four that have their own billing codes (Fluzone High Dose, Fludax, Flublok, and Flucelvax) have experienced substantial price growth, while the quadrivalent vaccines that are offered by multiple manufacturers and grouped together in a combined billing code have experienced very limited price growth.

When a Part B–covered vaccine is furnished by a hospital, skilled nursing facility, home health agency, hospital-based dialysis facility, RHC, or FQHC, Medicare's payment for the vaccine is based on reasonable cost instead of 95 percent of AWP. It is difficult to know how much Medicare

pays for vaccines based on reasonable cost. For most of these provider types, we can observe the amount paid for vaccines on claims, but the actual amount may be adjusted at cost report settlement.¹⁵ The cost reports include some data on vaccines, but the data combine all vaccines together and are not granular enough to determine what Medicare paid for each vaccine. In 2019, providers paid based on reasonable cost accounted for approximately 9 percent to 14 percent of influenza, pneumococcal, and hepatitis B vaccine doses covered by Part B.¹⁶

In certain circumstances, Part B covers vaccines as treatment for an injury or direct exposure to an illness. For example, Part B covers hepatitis A vaccine, rabies vaccine, and Td and Tdap vaccines in such circumstances. In those cases, Part B covers and pays for these products like other drugs and biologics used to treat illness or injury at a rate of 106 percent of the average sales price (ASP), with the beneficiary liable for 20 percent cost sharing.¹⁷

Besides paying for the vaccine itself, Medicare makes a separate payment under Part B to immunizers for administering the vaccine. In 2019, Medicare's payment for administering Part B vaccines totaled approximately \$365 million. In 2019, across all settings, the vaccine administration fee averaged about \$18 per injection. Providers are paid under the physician fee schedule or outpatient prospective payment system (with a few

**TABLE
7-7****Growth in payment rates for Part B vaccines**

CPT code	Description	Medicare payment rate 1st quarter 2020	Average annual price growth	Years over which growth is calculated	Number of manufacturers
Top 6 influenza vaccines with highest total Medicare spending (2019)					
90662	IIV increased antigen (Fluzone High Dose)	\$56.01	7.5%	2011–2020	1
90653	IIV adjuvanted (Fluad)	\$59.53	16.8	2017–2020	1
90682	RIV quadrivalent (Flublok)	\$56.01	10.0	2018–2020	1
90686	IIV quadrivalent, PF (multiple products)	\$19.03	–0.3	2014–2020	3
90674	Cell culture–based IIV quadrivalent (Flucelvax)	\$28.13	7.0	2017–2020	1
90688	IIV quadrivalent (multiple products)	\$17.84	1.1	2015–2020	3
Pneumococcal vaccines					
90670	Pevnar 13	\$214.62	6.3	2011–2020	1
90732	Pneumovax 23	\$114.21	11.2	2005–2020	1
Top 3 hepatitis B vaccines					
90740	Hepatitis B 3-dose immunosuppressed (multiple products)	\$134.12	1.1	2005–2020	2
90747	Hepatitis B 4-dose immunosuppressed (multiple products)	\$134.12	1.1	2005–2020	2
90746	Hepatitis B 3-dose adult (multiple products)	\$67.06	1.1	2005–2020	2

Note: CPT (Current Procedural Terminology), IIV (inactivated influenza vaccine), RIV (recombinant influenza vaccine), PF (preservative free). Average annual price growth is calculated based on the CMS-published payment for the first quarter of each year. For each type of vaccine, products are listed in order of highest total Medicare spending.

Source: MedPAC analysis of CMS-published payment rates and crosswalk.

exceptions for providers such as hospital-based dialysis facilities and critical access hospitals).

Part D–covered vaccines

Under Part D’s market-based approach, manufacturers’ pricing incentives for vaccines would be expected to vary, depending on factors such as the manufacturer’s Medicare market share and the degree of competition. Most Part D plans require their enrollees to pay cost sharing for vaccines, which may discourage some

beneficiaries from accessing preventive vaccines.

Depending on the plan’s benefit design and the benefit phase, beneficiaries may pay coinsurance based on list prices or the full retail prices at the pharmacy. As a result, manufacturers’ incentives to increase drug prices may be more restrained relative to having no beneficiary cost sharing, as under the Part B program. It is worth noting that Medicare pays most of the enrollee’s cost sharing for beneficiaries who receive LIS.

For vaccines with competing alternatives, plan sponsors can use differential cost sharing to encourage the use of lower cost products. That, in turn, may allow plan sponsors to gain more leverage in negotiating rebates with manufacturers, potentially lowering Medicare's spending for Part D. However, because many vaccines are typically administered once (or infrequently) and account for a lower share of Part D overall spending, Part D plans may have limited incentive to negotiate rebates or discounts.

Improving Medicare coverage and payment for preventive vaccines

Currently, as new preventive vaccines enter the market, Part B will cover only those that prevent diseases specified in law. By 2010, Part B already covered influenza and pneumococcal vaccines with no beneficiary cost sharing, but patients who needed immunization for hepatitis B were responsible for 20 percent cost sharing. A subsequent provision of the Affordable Care Act of 2010 (ACA) removed cost sharing for hepatitis B vaccines.¹⁸ In 2020, the Congress provided coverage under Part B for COVID-19 vaccines without beneficiary cost sharing. Any other new vaccines that the Food and Drug Administration approves would fall under Part D, in which private plans can manage benefits and set enrollee cost-sharing requirements.

Although Medicare's vaccine coverage today is broader than it was at the start of the program, the coverage of vaccines by some commercial health plans is even broader. In 2010, the ACA required nongrandfathered commercial health policies to cover, at no cost sharing on ingredient costs, all age-appropriate vaccinations recommended by the CDC's Advisory Committee on Immunization Practices (ACIP) (Center for Value-Based Insurance Design 2017).¹⁹ One should note, however, that some commercial health plans charge cost sharing on vaccine administration fees. The ACA made no changes related to Part D's coverage of ACIP-recommended vaccines, and thus most Part D plans can and do continue to require cost sharing for these vaccines.

To improve beneficiary access to preventive vaccines, the Commission recommends a policy that covers all appropriate preventive vaccines under Part B. The Commission also recommends improving payment accuracy for preventive vaccines under Part B by changing payment from 95 percent of AWP, a list price that may

have little relationship to market prices, to 103 percent of wholesale acquisition cost (WAC), which is a better measure of market prices than AWP. We also recommend vaccine manufacturers be required to report ASP data to CMS so that the Secretary can study the appropriateness of basing payment for preventive vaccines on ASP, a payment mechanism that is more reflective of market prices than either AWP or WAC. In addition to recommending coverage and payment changes to preventive vaccines, the text box (pp. 265–267) summarizes Medicare's efforts to measure and report on rates of vaccination that some researchers assert can help identify vaccine disparities among population groups.

Covering all preventive vaccines under Part B

In 2007, the Commission recommended that all vaccine coverage be moved to Part B. At the time, the Part D program was just getting underway, and physicians had at least two major concerns related to coverage of vaccines through Part D plans. Physicians purchased vaccines in the same way as other Part B drugs and administered them in their offices, but at the time, most had no direct way of billing Part D plans. A second concern was that if beneficiaries had to pay the full payment rate for vaccines up front and then seek reimbursement from their plans, the out-of-pocket cost would discourage them from seeking appropriate preventive care.

For those reasons, in 2007, the Commission recommended that the Congress permit coverage for appropriate preventive vaccines under Part B instead of Part D (Medicare Payment Advisory Commission 2007). Under Part B, physicians would be able to administer new vaccines in their offices as they do other covered vaccines, giving beneficiaries more access to preventive care.

The CARES Act placed Medicare coverage of COVID-19 vaccines under Part B. While the issue of Medicare coverage for COVID-19 vaccines has been settled, there remains the broader issue of whether Medicare coverage for all vaccines should be moved to Part B. Because it has been more than 10 years since the Commission recommended covering all vaccines under Part B, the current public health environment suggests it is timely for the Commission to revisit its reasoning.

Today, some of the Commission's original rationale for its recommendation no longer applies. Physicians and other immunizers (including pharmacists) can generally bill Part D plans through clearinghouse platforms.

Immunizers and their billing approaches

Physicians, nurses, and other licensed medical professionals have long administered vaccines. Historically, pharmacists have partnered with other immunizers to vaccinate, but over the past two decades their role has grown, and most states have expanded pharmacists' scope of practice to play a more independent role. A 2018 survey of independent pharmacists found that 90 percent provided flu vaccinations and 76 percent documented vaccinations through state-based immunization information systems (registries) (National Community Pharmacists Association 2019). Nearly 90 percent of Americans live within five miles of a pharmacy (National Association of Chain Drug Stores 2020). As a result, including pharmacists among eligible immunizers can expand access to vaccinations, likely at lower cost than administering them at physician offices or hospital clinics.

As of 2019, about 360,000 pharmacists were trained to provide immunizations, and all 50 states permitted pharmacists to do so in some capacity (Levy 2020). State regulations vary considerably depending on the type of vaccine, age, and condition of the patient. For certain types of vaccines, some states require a physician's prescription before a pharmacist may administer the immunization. States may use a vaccination protocol developed by physicians or a state health department that stipulates which vaccines, and under which conditions, a pharmacist may provide. For certain vaccines such as for influenza, most states permit pharmacists to immunize independently (Xavier and Goad 2017).

Under Part B, immunizers' billing methods depend on whether the patient is in traditional fee-for-service (FFS) Medicare or enrolled in a Medicare Advantage (MA) plan. For Part B vaccines administered to FFS patients, immunizers submit claims to their

(continued next page)

Relatively few Medicare beneficiaries (1 percent) pay the full cost of the vaccine upfront and then seek retroactive reimbursement from their plan. While some initial Part D vaccine billing concerns have been alleviated, the Commission believes that there continue to be good reasons to move all preventive vaccine coverage to Part B.

- As of 2020, more Medicare beneficiaries are enrolled in Part B (57.3 million) than in Part D (48.8 million) (Boards of Trustees 2020). Thus, coverage of vaccines under Part B has the potential to reach a larger group of beneficiaries.
- High cost sharing in some Part D plans may prevent some beneficiaries from seeking recommended preventive vaccines.
- A wide variety of health care providers (e.g., hospitals, physician clinics, dialysis facilities) bill Medicare under Part B, offering more settings where beneficiaries can receive vaccines than under Part D.

- Beneficiaries and even some providers may find it confusing to understand which vaccines are covered by Part B versus Part D.

For these reasons, the Commission believes a policy similar to the 2007 recommendation, under which Medicare would cover appropriate preventive vaccines and their administration under Part B instead of Part D without cost sharing, would improve beneficiary access to preventive vaccines. Cost sharing is the key difference between the policy the Commission articulates in this chapter and the 2007 recommendation. Our previous recommendation did not discuss cost sharing, whereas the policy we are recommending now would explicitly eliminate beneficiary cost sharing for Part B–covered preventive vaccines and their administration. Currently, beneficiaries face no cost sharing for the four Part B–covered vaccines (flu, pneumococcal, hepatitis B, and COVID-19) or for their administration. Similarly, this policy would ensure that beneficiaries face no cost

Immunizers and their billing approaches (cont.)

regional Medicare administrative contractor for the vaccine itself as well as for a separate payment for vaccine administration. Although pharmacists are not considered Medicare providers, they can register with CMS as “mass immunizers” and thereby bill Part B for influenza, pneumococcal, and COVID-19 vaccinations.²⁰ For patients enrolled in MA, in-network providers bill the patient’s plan for reimbursement.

Physicians and office-based immunizers may not bill Part B for administering Part D vaccines. When Part D began in 2006, its plans had to develop methods to pay physicians to administer Part D vaccines. Subsequently, companies created clearinghouse platforms that allow medical providers to look up the patient’s coverage, cost sharing, and the payer’s reimbursement amount to the provider before a patient receives a vaccine (Yan et al. 2018). If the provider administers the vaccine, they can also adjudicate the claim with the Part D plan’s pharmacy benefit manager (PBM) through the clearinghouse. Nevertheless, patients’ access to

vaccines under Part D may be affected because some plans may not participate in a clearinghouse or because some providers may not find the platforms easy to use. Instead, the patient may have to pay the immunizer up front for the vaccine and then submit a claim to their Part D plan themselves for reimbursement (Centers for Medicare & Medicaid Services 2019b). If an immunizer’s charge is higher than a plan’s allowable charge, the patient must pay the difference.

Most pharmacies enter into contracts with all or nearly all Part D plans to be included in the plans’ pharmacy networks. When a provider transmits a prescription for a vaccine to a pharmacy, or if the vaccine is one that pharmacists can administer without a prescription, an in-network pharmacy collects the plan’s cost-sharing amount from the patient and adjudicates the claim with the plan’s PBM for reimbursement. In most cases, Part D plans do not reimburse out-of-network pharmacies, so beneficiaries have a financial disincentive to receive immunizations at out-of-network pharmacies. ■

sharing for any additional vaccines that become covered by Part B (i.e., for vaccines that are moved from Part D to Part B coverage and for future vaccines). While some beneficiaries have coverage of Part B cost sharing through Medigap or Medicaid, not all beneficiaries have supplemental coverage; the policy would ensure that these beneficiaries do not face cost sharing for future Part B–covered preventive vaccines.

The elimination of cost sharing under Part B would lead to additional Medicare spending (because under Part D, beneficiaries who do not receive the low-income subsidy may be liable for cost sharing on the shingles vaccine, whereas under the Commission’s recommended policy they would not, if coverage were moved to Part B). In addition, some Medicare beneficiaries receive drug coverage from sources other than Part D (e.g., related to past employment such as the Federal Employees Health Benefits Program, TRICARE, and other employers that sponsor retiree drug coverage outside of the Part D

program). For a subset of beneficiaries with Part B, the coverage of vaccines would shift from plans offered by their former employers to Part B. This shift would result in higher Part B spending on vaccines. In addition, if the policy increases the share of beneficiaries who receive the shingles vaccine, it would also increase Medicare spending on the vaccine.

At the same time, Medicare spending on Part A and Part B services might be reduced to the extent that cases of shingles are prevented by increased shingles vaccination. The CDC estimates that, for every 11 to 17 immunocompetent individuals age 50 and older who are vaccinated with Shingrix, one case of shingles is prevented (Dooling et al. 2018).²¹ The agency also estimates that it would require vaccinating between 70 and 187 individuals to prevent one case of shingles with postherpetic neuralgia (PHN), a complication of shingles associated with longer-term nerve pain (Dooling et al. 2018). Researchers have attributed increased health care utilization—particularly

office visits, hospital outpatient visits, and outpatient medications—to the treatment of shingles (Johnson et al. 2016, Meyers et al. 2017).²² Health care use attributable to shingles increased due to the presence of PHN and generally increased with increasing age (Johnson et al. 2016, Meyers et al. 2017, Yawn et al. 2009).²³ Prevention of shingles cases thus would be expected to reduce utilization of health care services associated with shingles treatment. However, any reduction to Part A and Part B spending on shingles treatment would likely be spread over a long time horizon. In addition, the increase in spending due to increased shingles vaccination would likely be greater than the reduction in spending associated with reduced incidence of shingles.

Changing Medicare’s payment for Part B preventive vaccines

Medicare Part B’s payment method for preventive vaccines causes some concern. Medicare pays for most doses of Part B–covered vaccines at a rate of 95 percent of AWP, a list price that does not reflect market prices. Other pricing metrics, such as WAC and ASP, would better reflect purchasers’ acquisition costs than AWP does.

Aside from preventive vaccines, Medicare generally pays for Part B–covered drugs and biologics based on ASP but uses WAC in certain circumstances. For most Part B–covered drugs and biologics, Medicare pays 106 percent of ASP. The ASP for a drug is the average price realized by the manufacturer for sales to all purchasers net of most rebates, discounts, and price concessions, with certain exceptions. For new products that initially lack ASP data, Medicare pays 103 percent of WAC. The WAC for a drug is the price at which the manufacturer sells the product to the wholesaler; the price does not reflect discounts or rebates if available.

To gauge the effect of changing the payment rate for Part B–covered preventive vaccines, we analyzed the available pricing data on vaccines.

- For three Part B–covered vaccines paid at 95 percent of AWP (flu, pneumococcal, and hepatitis B), we have data on AWP and WAC, but not on ASP.
- For a few vaccines that are covered under Part B when used as treatment for an injury or direct exposure and covered under Part D when used for preventive reasons, we have data on ASP, Part D plan payment rates to the pharmacy (i.e., before any rebates), and WAC.

- For vaccines that are covered only under Part D, such as the shingles vaccine, we have data on Part D plan payment rates and WAC.

For the three Part B–covered preventive vaccines, Medicare’s current payment rate of 95 percent of AWP exceeds WAC by a significant amount. Based on an analysis of 15 billing codes for these vaccines as of July 2020, the payment rate of 95 percent of AWP was equivalent to between 85 percent and 138 percent of WAC for the individual products (i.e., national drug codes (NDCs) assigned to these billing codes) (Table 7-8). For the influenza vaccine, the payment rate ranged from 108 percent to 138 percent of WAC, with a median of 117 percent. For the pneumococcal vaccine, the payment rate ranged from 111 percent to 117 percent of WAC, with a median of 114 percent. Among hepatitis B vaccines, one product was paid less than WAC (85 percent), while the remaining products were paid between 114 percent and 122 percent of WAC. Thus, except for the one hepatitis B vaccine that was paid less than WAC, Medicare paid between 8 percent and 38 percent more than the gross price the manufacturer charges the wholesalers for the three Part B–covered preventive vaccines. (Note that WAC is a gross price charged to the wholesaler and does not reflect discounts and rebates, so the actual price a provider pays for the vaccine may be lower.)

For four vaccines (hepatitis A, rabies, Td, and Tdap) covered by both Part B and Part D, the Part B’s 106 percent of ASP payment rate ranged from 73 percent of WAC to 94 percent of WAC. Discounts or rebates likely account for the difference between ASP and WAC for these four vaccines. WAC is the undiscounted price from the manufacturer to the wholesaler, whereas ASP incorporates most discounts and rebates received by purchasers to the extent they are available. The four vaccines all have at least two competing manufacturers, which might provide leverage for pharmacies, physicians, and hospitals to secure discounts or rebates.

Median Part D plan payment rates for the ingredient cost of these four vaccines were higher, ranging from 98 percent to 106 percent of WAC.²⁴ The median Part D plan payment rate for Shingrix, the shingles vaccine that accounted for over 90 percent of Part D gross drug spending on vaccines in 2019, was 101 percent of WAC. Thus, based on the data for these five vaccines, Part D plan payment rates for the ingredient cost of vaccines are generally near or slightly above WAC. However, Part D

**TABLE
7-8**

Comparison of Medicare's vaccine payment rates to wholesale acquisition cost

	Part B		Part D
	95% of AWP payment rate as a share of WAC, 2020	106% of ASP payment rate as a share of WAC, 2020	Median payment rate as a share of WAC, 2019
	Range across NDCs (median NDC)	Range across NDCs (median NDC)	Range across NDCs (median NDC)
Part B-covered preventive vaccines			
Influenza	108%–138% (117%)	N/A	N/A
Pneumococcal	111%–117% (114%)	N/A	N/A
Hepatitis B	85%–122% (115%)	N/A	N/A
Vaccines covered by Part B and Part D			
Hepatitis A	N/A	87%–88% (87%)	102%–105% (104%)
Rabies	N/A	83%–87% (85%)	98%–104% (101%)
Td	N/A	73%–94% (73%)	99%–105% (103%)
Tdap	N/A	76%–84% (77%)	105%–106% (105%)
Vaccine covered by Part D			
Shingles (Shingrix)	N/A	N/A	101%*

Note: AWP (average wholesale price), ASP (average sales price), WAC (wholesale acquisition cost), NDC (national drug code), N/A (not applicable), Td (tetanus and diphtheria), Tdap (tetanus, diphtheria, and pertussis). Estimates reflect the median NDC when there are multiple NDCs for a particular type of vaccine. The Part D payment rate reflects the median total payment to pharmacies for ingredient cost, including cost sharing, and does not reflect any manufacturer rebates if available. WAC prices and Part B payment rates are for July of a given year. Data exclude Part B and Part D payments for vaccine administration and any Part D dispensing fee. We compared Part B payment rates (95% of AWP or 106% of ASP) to WAC by comparing the billing code-level payment rates with the individual WAC for each NDC in the billing code. We compared median Part D payment rates with WAC by comparing both payment rates and WAC at the NDC level.
*We provide a single figure for Shingrix because it has just one NDC.

Source: MedPAC analysis of Part D prescription drug event data, public ASP payment rate files from CMS, and data from First Databank.

plan payment amounts do not reflect any rebates that the vaccine manufacturer may have paid to the Part D plan. We do not know whether Part D plans collect any rebates for vaccines. For vaccines where there are competing products from multiple manufacturers, Part D plans may have leverage to negotiate rebates. But if a vaccine

accounts for a small share of Part D plan spending or lacks competitor products, Part D plans may lack the incentive or leverage to negotiate rebates.

This analysis is instructive because it suggests the magnitude of the difference between list prices (AWP)

and the prices paid by wholesalers before discounts and rebates are applied (WAC) and the price net of discounts and rebates (ASP). Medicare's payment rate of 95 percent of AWP for Part B preventive vaccines substantially exceeds WAC, which indicates that it is higher than needed to cover immunizers' cost of acquiring the vaccine. Shifting the basis of payment from AWP to WAC—for example, to a rate of 103 percent of WAC, similar to the rate Part B pays for new drugs and biologics that lack ASP data—would generate savings for taxpayers. This change would also reduce payments for vaccines to immunizers, but we expect that immunizers would continue to be able to obtain vaccines at prices within the Medicare's payment amount.

Although WAC is a better measure of drug prices than AWP (as it reflects the price at which the manufacturer sells its pharmaceutical product to wholesalers or directly to customers), WAC does not incorporate any discounts or rebates that may be available, so it likely overstates market prices. For the small number of vaccines for which we have data, WAC is substantially higher than ASP. The vaccines for which we have WAC and ASP data all have at least two competing products from different manufacturers. We do not know how WAC and ASP relate for other vaccines. ASP and WAC may be closer for vaccines that lack competitors or that are viewed as having differential benefits for certain populations than alternative manufacturers' vaccines. Nonetheless, the substantial difference between WAC and ASP we observe for the vaccines for which we have data suggest that ultimately a payment rate based on ASP might be most appropriate, as it would reflect actual market prices rather than undiscounted wholesale prices.

For a number of reasons, it would be helpful to have more data before considering an ASP-based payment amount for vaccines that are currently paid 95 percent of AWP. Because ASP is an average, we do not know how much the acquisition prices for vaccines vary across purchasers, such as physicians and pharmacies. Understanding that price variation would help policymakers determine whether 106 percent of ASP or an alternate add-on to ASP is an appropriate payment rate.

It is not clear how the two-quarter lag in ASP data reporting would affect Medicare payment rates for preventive vaccines, given the seasonality of the influenza vaccine and potential supply and demand dynamics that can affect vaccines more generally.²⁵ The influenza vaccine is modified slightly each year. Most influenza

vaccinations among Medicare beneficiaries occur in the third and fourth quarter of the calendar year. Due to the two-quarter lag in ASP data, an ASP-based payment rate for the influenza vaccine for the third quarter of the year would be based on the ASP for influenza vaccine sold during the first quarter of the year (the prior version of the influenza vaccine). Similarly, ASP-based payment rates for the fourth quarter of the year would be based on the ASP for sales in the second quarter of the year (the prior version of the influenza vaccine during a quarter when very few influenza vaccinations occur). We do not know whether there is much variation in the ASP for the influenza vaccine across these time periods due to seasonality. More generally, vaccine supply can vary over time, with either a larger or smaller number of doses available than expected during some periods (Centers for Disease Control and Prevention 2021). How frequently these supply and demand gaps occur and what effect, if any, they would have on Medicare payment rates given the two-quarter lag is unknown. Having data on the ASP for vaccines would help address these questions and make it easier to develop an ASP-based payment policy that accounts for any such issues.

A two-part approach to modifying Medicare Part B's payment for preventive vaccines could improve the accuracy of Medicare payment for vaccines while promoting beneficiary access. A policy that immediately modifies Medicare Part B's payment for vaccines to 103 percent of WAC and that requires vaccine manufacturers to report ASP data to CMS for study would improve Medicare's current payment rate for vaccines and build the knowledge base that could facilitate the development of an ASP-based payment rate in the future. First, by setting Medicare's payment rate at 103 percent of WAC, this policy would moderately reduce payment rates by moving away from inefficient AWP-based payment while maintaining vaccine payment rates at a level that should keep vaccines accessible to all immunizers. In addition, for vaccines currently covered under Part D that the Commission recommended be moved to Part B in 2007, a payment rate of 103 percent of WAC would be similar to the payment rates Part D plans have been paying for vaccines. Second, by requiring manufacturers to report ASP data for vaccines to CMS, the policy would enable the agency to study how payment rates would be different if they were based on ASP rather than WAC. As part of this assessment, the Secretary should, potentially through the Office of Inspector General (OIG), gather data on immunizers' acquisition costs for vaccines to study how

vaccine prices vary across immunizers and how those prices relate to ASP and WAC. OIG has experience conducting studies of acquisition costs for other drugs and biologics (such as for drugs furnished by dialysis facilities and for immune globulin furnished by hospital outpatient departments and physician offices) (Office of Inspector General 2010, Office of Inspector General 2007, Office of Inspector General 2006). The collection of ASP data by CMS and acquisition price information by the Secretary would build the knowledge base to consider and develop an ASP-based payment rate for Part B vaccines in the future.

The same payment policy for Part B preventive vaccines should apply across settings, including those settings in which providers are currently paid reasonable cost. Inpatient and outpatient hospitals (except Indian Health Service hospitals), skilled nursing facilities, home health agencies, hospital-based dialysis facilities, RHCs, and FQHCs are currently paid for vaccines based on reasonable cost. Cost-based reimbursement can result in wide variation in payment rates across providers for the same vaccine. Cost-based reimbursement also makes it difficult to know how much Medicare is spending on each vaccine because payments can be revised at cost report settlement. In general, the Commission has held that Medicare should pay similar rates for similar care. If a WAC-based payment is appropriate for settings that are currently paid 95 percent of AWP (such as physician offices, mass immunizers, Indian Health Service hospitals, freestanding dialysis facilities, and hospices), then the principle of paying similar rates for similar care would suggest the same WAC-based rate is appropriate for hospitals and other settings that are currently paid reasonable cost for Part B–covered vaccines. Medicare’s current approach to paying for nonvaccine Part B–covered drugs and biologics provides a precedent for paying the same rate across settings, with Medicare generally paying the same rate (106 percent of ASP) across a number of settings—physician offices, hospital outpatient departments, pharmacies, and durable medical equipment suppliers.²⁶ Thus, hospital outpatient departments are already paid under the ASP-based payment system for most drugs that they furnish. With respect to RHCs and FQHCs, we also note that moving to WAC-based payment might have positive cash flow benefits for these entities because WAC-based payment would be made through claims submission, whereas currently these entities are paid for influenza and pneumococcal vaccines only at the end of the cost report year.²⁷

Recommendation

RECOMMENDATION 7

The Congress should:

- **cover all appropriate preventive vaccines and their administration under Part B instead of Part D without beneficiary cost sharing and**
- **modify Medicare’s payment rate for Part B–covered preventive vaccines to be 103 percent of wholesale acquisition cost, and require vaccine manufacturers to report average sales price data to CMS for analysis.**

RATIONALE 7

The recommendation to cover all appropriate preventive vaccines under Part B without cost sharing would improve beneficiary access to vaccines because more beneficiaries have coverage under Part B than Part D and because beneficiaries would face no cost sharing for vaccines under Part B. It would also facilitate the administration of vaccines in a variety of settings, potentially creating more opportunities to reach beneficiaries for preventive vaccinations. Under this policy, the Secretary should consider expanding the set of vaccines (now limited to influenza, pneumococcal, and COVID-19) that mass immunizers can furnish.

The recommendation would also improve Medicare Part B payment for preventive vaccines by moving away from payment based on 95 percent of AWP or reasonable cost. By establishing a payment rate of 103 percent of WAC, the recommendation would moderately reduce Medicare payment rates for Part B vaccines while keeping vaccine payment rates at a level that should be accessible to all immunizers. At the same time, the recommendation would require manufacturers to report ASP data for vaccines to CMS so that the agency could study how payment rates would differ if they were based on ASP rather than WAC. As part of this assessment, the Secretary could, potentially through OIG, gather data on immunizers’ acquisition costs for vaccines to study how vaccine prices vary across immunizers and how those prices relate to ASP and WAC. This approach would build the knowledge base to consider development of ASP-based payment rates in the future. Once the study is completed, the Commission urges the Secretary to make the results of the analysis public and seek statutory authority to adopt an ASP-based payment rate for preventive vaccines if it would improve payment accuracy.

Spending

- The Congressional Budget Office estimates that this recommendation would increase Medicare program spending by \$250 million to \$750 million over one year and \$1 billion to \$5 billion over five years.

Several dynamics underlie this estimate of the recommendation's net effect. The movement of vaccines from Part D to Part B is expected to increase Medicare program spending because more beneficiaries are enrolled in Part B than Part D and because the recommendation would eliminate beneficiary cost sharing under Part B for vaccines and their administration that would have, in the absence of the recommendation, been subject to beneficiary cost sharing under Part D. The second part of the recommendation, improving Medicare's payment for Part B–covered vaccines, would reduce Medicare program spending due to savings from paying 103 percent of WAC instead of a higher AWP-based rate.

To the extent that increased shingles vaccination prevents cases of shingles, it would be expected to reduce FFS utilization and spending associated with shingles treatment. At the same time, increased uptake of shingles vaccine would increase Medicare spending for the vaccine and its administration. The increase in spending due to increased shingles vaccination would likely be greater than the reduction in spending associated with reduced incidence of shingles. The CDC estimates that one case of shingles is prevented for every 11 to 17 immunocompetent individuals age 50 and older who is vaccinated with Shingrix (Dooling et al. 2018).

Beneficiary and provider

- We expect the recommendation would increase beneficiary access to preventive vaccines and would result in vaccines being furnished in a wider range of provider settings. This recommendation is not expected to affect providers' willingness or ability to care for Medicare beneficiaries.

Implementation issues

To execute this vaccine coverage policy, CMS would need to define “appropriate preventive vaccines,” which could be defined as vaccines recommended by the CDC's ACIP, the entity in the U.S. that makes recommendations on appropriate use of vaccines (e.g., who should receive

the vaccines, at what ages they should be given, how many doses are needed, how multi-dose vaccinations are spaced, and precautions or contraindications). This approach would be similar to the standard set by the ACA for vaccine coverage by nongrandfathered commercial plans and for adult vaccine coverage by state Medicaid programs.

The process Medicare uses to cover preventive services could also serve as a model for this vaccine policy. For preventive services (e.g., screening for certain types of cancer), the Secretary has authority to cover those services that are (1) reasonable and necessary for the prevention or detection of an illness or disability, (2) recommended with a grade of A or B by the U.S. Preventive Services Task Force (USPSTF), and (3) appropriate for individuals with Part A or Part B coverage. The statute gives the Secretary the authority to determine whether a preventive service meets these criteria under the national coverage determination (NCD) process.²⁸ Because the USPSTF does not make recommendations on vaccines, this process does not apply to vaccines. But a similar process could be developed for preventive vaccines, under which the Secretary could be permitted to cover preventive vaccines if recommended by an expert panel (such as ACIP) and the Secretary determines the vaccine meets the other criteria in the NCD process.²⁹

For the small number of vaccines currently used to prevent disease as well as to treat an injury or a direct exposure to a disease (e.g., hepatitis A, rabies, Td, and Tdap), an implementation issue arises in that the vaccines would potentially be paid at two different rates under Medicare Part B. Currently, these Part B–covered vaccines that are furnished for the treatment of an injury or direct exposure are paid at a rate of 106 percent of ASP if provided in a physician office or separately paid under the outpatient prospective payment system. The Commission's recommendation is that appropriate preventive vaccines be paid 103 percent of WAC. Thus, doses of these vaccines not used in response to injury or direct exposure could be paid based on WAC. However, given that some doses of these vaccines are currently paid based on ASP under Part B, the policy could grandfather these vaccines and maintain their payment rate at 106 percent of ASP, regardless of how they are used. Unlike the high-volume preventive vaccines like influenza, pneumococcal, and hepatitis B, Medicare already has ASP data for the hepatitis, rabies, Td, and Tdap vaccines and has some experience paying for them based on ASP. Thus, the rationale for WAC-based payment as an interim policy

Medicare's reporting of vaccination rates and efforts to improve uptake are uneven

Medicare's tracking of vaccination rates and efforts to improve uptake are uneven. While more Medicare beneficiaries have been vaccinated in recent years, some rates have not reached objectives established by the Centers for Disease Control and Prevention (CDC), and sizable differences in vaccination rates exist by race and ethnicity. Researchers maintain that measuring and reporting on rates of vaccination can help identify disparities among population groups. Researchers have also suggested that tying payment to quality measurement can be a promising lever to increase adult vaccination rates and achieve national population health targets (Hughes et al. 2019). In 2013, the Department of Health and Human Services contracted the National Quality Forum (NQF) to identify, analyze, prioritize, and make recommendations to fill gaps in adult immunizations. The NQF recommended increasing vaccination rates through the use of (1) reporting programs, (2) financial and other incentives, and (3) technology and infrastructure support. The NQF also identified the development of two quality measures that would be applicable for the Medicare population: (1) a composite performance measure that includes immunization with other preventive care services, as recommended by age and sex, and (2) a composite measure of all vaccines recommended by the Advisory Committee

on Immunization Practices (National Quality Forum 2014).

Medicare measures vaccination rates among some health care personnel since vaccinating this group has been associated with substantial reductions in the rate of influenza-like illness and all-cause mortality among both staff members and patients in various health care settings. For example, health care personnel risk passing on influenza to their patients as well as their colleagues. Health care personnel who are vaccinated also positively influence vaccine uptake among their clients, compared with health care personnel who are not vaccinated (Centers for Disease Control and Prevention 2006).

Table 7-9 (p. 267) compares the availability of publicly reported vaccine rates and the use of vaccine measures in pay-for-reporting programs (i.e., quality reporting programs) and in pay-for-performance programs (value-based purchasing) across settings. Several vaccine-related measures are publicly reported on the Medicare.gov website, and the specific measures vary across fee-for-service (FFS) providers. For example, several types of institutional providers—such as hospitals paid under the inpatient prospective payment system (PPS), PPS-exempt

(continued next page)

to permit time to collect ASP data and study the potential effects of ASP-based payment rates is not as relevant for these four vaccines. However, should data collected by the Secretary on the distribution of acquisition costs for higher volume preventive vaccines suggest that a different add-on to ASP is warranted, such a change should be considered for vaccines currently paid at 106 percent of ASP also.

CMS should take steps to ensure that the payment rate for drug administration of Part B-covered vaccines is appropriate and accurately incorporates the various costs associated with vaccine administration. For example, CMS should reevaluate and update the work and practice expense components of the relative value units associated

with the vaccine administration codes (Current Procedural Terminology (CPT) codes 90460–90474 and Healthcare Common Procedure Coding System codes G0008–G0010) under the physician fee schedule. CMS has valued these codes based on a direct crosswalk to another service (CPT code 96372, which is for “therapeutic, prophylactic, or diagnostic injection (specify substance or drug); subcutaneous or intramuscular”). For 2021, the agency has maintained the 2019 payment amounts for vaccine administration services instead of pursuing other options, such as crosswalking the value to an alternative service (CPT code 36000, which is for “introduction of needle or intracatheter, vein”) or using the 2009 recommendation

Medicare's reporting of vaccination rates and efforts to improve uptake are uneven (cont.)

cancer hospitals, long-term care hospitals, and inpatient rehabilitation facilities—report the influenza vaccination rate for their health care personnel in their quality reporting programs; this measure is publicly available on Medicare.gov. For nursing homes and home health providers, information on both influenza and pneumococcal vaccination rates for patients is publicly reported on Medicare.gov. Across all FFS providers listed in Table 7-9, the measure results are calculated using some combination of providers' own administrative data, clinical data (e.g., electronic health records), and assessment data, which are then reported to CMS (or in some cases to the CDC). Although not finalized, CMS is considering adding a COVID-19 vaccination rate for health care personnel to the quality reporting programs for most institutional settings (Centers for Medicare & Medicaid Services 2020a).

For individual clinicians, influenza and pneumococcal vaccination rates of beneficiaries are not publicly reported on Medicare.gov, but clinicians can report them as one of their six measures scored in the quality category of the Merit-based Incentive Payment System (MIPS).³⁰ CMS has included vaccination rates in the suggested measure sets for the following specialties: allergy/immunology, cardiology, endocrinology, family medicine, geriatrics, infectious disease, internal medicine, nephrology, obstetrics/gynecology, oncology/hematology, otolaryngology, preventive medicine, pulmonology, and rheumatology. In 2021, the MIPS quality category also includes the shingles vaccination rate for selected specialties.³¹

With the exception of clinicians, none of the FFS providers listed in Table 7-9 include a requirement for either health care personnel or patient vaccination measures to be scored in a value-based payment program (or the setting does not have a value-based payment program). Given the CDC's position that vaccination is particularly critical for individuals with end-stage renal disease (ESRD), the lack of vaccination-related measures that are either publicly reported or used in the value-based payment program for dialysis facilities for 2021 is notable (Centers for Disease Control and Prevention 2020b). For ambulatory surgical centers and hospice providers, no vaccine-

related measures are publicly reported on Medicare.gov or included in their quality reporting program.

Accountable care organizations (ACOs), including those participating in the Medicare Shared Savings Program, have to report and may be scored on their performance on an influenza vaccination measure. ACOs report their results to CMS based on their own administrative and clinical data (e.g., electronic health records). In 2019, ACOs reported an average beneficiary influenza vaccination rate of 76 percent. Although ACOs have the option to report and be scored on beneficiaries' vaccination for influenza in payment year 2021, they will not be scored on this measure starting in payment year 2022. The Comprehensive ESRD Care (CEC) Model, a specialized ACO-like model which began in 2015 and ended in March 2021, measured the share of beneficiaries receiving the influenza vaccine, but did not measure performance for other types of vaccinations, including pneumococcal and hepatitis B that the CDC recommends for ESRD patients. An analysis of the first three years of the CEC Model found that influenza vaccination rates were significantly higher for beneficiaries treated by participating providers compared with a matched control population (Marrujo et al. 2020).

The Medicare Advantage (MA) star rating system used for public reporting and the quality bonus program includes a measure of the share of MA plan members who report receiving an influenza vaccination based on data from the MA Consumer Assessment of Healthcare Providers and Systems® (CAHPS®) survey. The MA CAHPS survey results are collected from a sample of plan enrollees. According to CMS, the national average of MA plan enrollees who reported in CAHPS that they received an annual flu vaccine was 75 percent in both 2017 and 2018 (latest year available) (Centers for Medicare & Medicaid Services 2019d, Centers for Medicare & Medicaid Services 2018). MA plans must also report to CMS pneumococcal vaccine rates collected through the CAHPS survey as a display measure; however, these results are not currently used for public reporting or in the quality bonus program. ■

(continued next page)

Medicare's reporting of vaccination rates and efforts to improve uptake are uneven (cont.)

**TABLE
7-9**

Vaccination measures used in Medicare's public reporting and value-based payment programs vary across fee-for-service provider types

	Publicly available on Care Compare on Medicare.gov	Included in quality reporting program ^a	Included in value-based payment program ^b
Physicians and other health care professionals	None	None	Option to be scored on the influenza and pneumococcal vaccination of beneficiaries for selected clinician specialties (MIPS) ^c
Inpatient PPS hospitals	NHSN influenza vaccination coverage among health care personnel	NHSN influenza vaccination coverage among health care personnel	None
PPS-exempt cancer hospitals	NHSN influenza vaccination coverage among health care personnel	NHSN influenza vaccination coverage among health care personnel	N/A
Inpatient psychiatric facilities	Influenza immunization of patients	Influenza immunization of patients	N/A
Inpatient rehabilitation facilities	NHSN influenza vaccination coverage among health care personnel	NHSN influenza vaccination coverage among health care personnel	N/A
Long-term care hospitals	NHSN influenza vaccination coverage among health care personnel	NHSN influenza vaccination coverage among health care personnel	N/A
Ambulatory surgical centers	None	None	N/A
Dialysis facilities	None	N/A	None ^d
Nursing homes	Share of long-stay residents given the seasonal influenza vaccine and the pneumococcal vaccine	N/A	N/A
Skilled nursing facilities	Share of short-stay residents given the seasonal influenza vaccine and the pneumococcal vaccine	None	None
Home health agencies	Rate at which home health team determined whether beneficiary received influenza vaccine during current influenza season and pneumococcal vaccine	Rate at which home health team determined whether beneficiary received influenza vaccine during current influenza season and pneumococcal vaccine	None ^e
Hospice	None	None	N/A

Note: MIPS (Merit-based Incentive Payment System), PPS (prospective payment system), NHSN (National Healthcare Safety Network), N/A (not applicable). "None" means one or more vaccine measures are not used in a given program (i.e., Care Compare on Medicare.gov, quality reporting program, or value-based payment program). "N/A" means that Medicare has not established the program for a given provider type. The CDC's NHSN is a widely used health care-associated infection tracking system.

^aBy "quality reporting program," we mean a program that links providers' payment to reporting of quality measures.

^bBy "value-based payment program," we mean a program that links providers' payment to the quality of care they furnish.

^cFor payment years 2022 and 2023, vaccine measures in MIPS assess (1) share of patients ages 6 months and older seen for a visit between October 1 and March 31 who received an influenza vaccine or who reported previous receipt of an influenza vaccine and (2) share of patients 65 years of age and older who have ever received a pneumococcal vaccine. In 2023, these measures were included for the following specialties: allergy/immunology, cardiology, endocrinology, family medicine, geriatrics, infectious disease, internal medicine, nephrology, obstetrics/gynecology, oncology/hematology, otolaryngology, preventive medicine, pulmonology, rheumatology, and skilled nursing facility. Only the influenza measure applies for pediatrics. In payment year 2021, a measure assessing vaccination for shingles is also used.

^dBeginning in 2021, CMS eliminated the ESRD [End-Stage Renal Disease] Quality Incentive Program's measure on whether facilities reported the Healthcare Personnel Influenza Vaccination Summary to the NHSN.

^eThe Home Health Value-based Purchasing Program, in its fourth year, removed the scoring of two measures: Influenza Immunization Received for Current Flu Season and Pneumococcal Polysaccharide Vaccine Ever Received. The Home Health Value-based Purchasing Program applies to only agencies in nine states, but CMS has expressed an intent to expand the model nationally.

Source: MedPAC analysis of CMS websites.

on the value of the codes from the American Medical Association/Specialty Society Relative Value Scale Update Committee (which would result in a lower payment rate across all codes). CMS recognized the importance of accurately determining the resource costs for these codes and stated that it would “welcome the results of an updated formal review of these services as well as any additional information that may be helpful for valuation in the immediate future” (Centers for Medicare & Medicaid Services 2020b).

We note CMS has established a special approach for payment for COVID-19 vaccine administration.³² For COVID-19 vaccines administered on or after March 15, 2021, the national average payment rate for physicians, hospitals, pharmacies, and many other immunizers will be \$40 to administer each dose of a COVID-19 vaccine. This rate represents an increase from approximately \$28 to \$40 for the administration of single-dose vaccines, and an increase from approximately \$45 to \$80 for the administration of COVID-19 vaccines requiring two doses. The exact payment rate for administration of each dose of a COVID-19 vaccine will depend on the type of entity that furnishes the service and will be geographically adjusted based on where the service is furnished.

The payment policy change we outline would represent an important move away from inefficient AWP-based payment and reasonable cost-based payment for vaccines, but the policy would have only a limited effect on incentives for manufacturers to reduce prices or to slow price increases. In the future, other policies to promote price competition and value for Part B products, including vaccines, could be explored. In June 2017, the Commission recommended that manufacturers of Part B drugs pay Medicare a rebate when their prices increase faster than an inflation benchmark. One benefit of an inflation rebate structured this way is that manufacturers, rather than providers, are at risk for price increases. The Commission’s rebate recommendation applied to Part B drugs and biologics paid based on ASP, so it did not include vaccines, which are currently paid based on 95 percent of AWP. However, a manufacturer inflation rebate policy could be explored for vaccines as well.

The Commission’s work on consolidated billing codes and reference pricing for Part B drugs and biologics also has relevance to vaccines. The Commission has found that the structure of the ASP payment system—where single-source drugs and biologics receive their own billing code and are

paid 106 percent of their own ASP—does not promote price competition among some groups of drugs with similar health effects. To address this issue, in our June 2017 report to the Congress the Commission recommended that biosimilars and their reference biologics be paid under a consolidated billing code (i.e., a common billing code), with all products assigned to the code paid at the same rate. In the June 2019 report, the Commission explored the use of reference pricing or consolidated billing codes to spur price competition among single-source drugs and biologics with similar health effects that are assigned to separate billing codes. As the Commission continues to explore reference pricing policies in the future, our work could consider vaccines in addition to other Part B single-source drugs and biologics. Currently, some vaccines are already subject to a form of reference pricing in that products from multiple manufacturers are included in the same billing code and paid 95 percent of the lowest AWP among the NDCs assigned to the code. However, the Part B vaccines with the highest spending generally have their own billing codes, and the growth in payment rates has been most rapid among these products (Table 7-7, p. 256). Even if payment rates for Part B vaccines were modified to 103 percent of WAC or to an ASP-based payment rate, price competition would be limited for products in their own billing codes. Thus, to the extent that there are vaccines with similar health effects that have distinct billing codes, it may be worth considering these products in our broader work on reference pricing and consolidated billing policies. (See our June 2019 report to the Congress for more information on the Commission’s work on reference pricing, including examples of groups of products that are competitors and are each paid under separate billing codes based on their separate ASPs, located at http://www.medpac.gov/docs/default-source/reports/jun19_ch3_medpac_reporttocongress_sec.pdf?sfvrsn=0.)

In the future, alternative approaches to paying for vaccines may also merit exploration. For example, under current policy, the federal government is directly purchasing COVID-19 vaccines for distribution, and Medicare is paying only an administration fee to immunizers, rather than providers purchasing the vaccines and subsequently seeking payment from Medicare to cover the cost of the vaccine. This type of bulk purchasing approach could provide a model for the Medicare program to explore bulk purchasing for other vaccines or other drugs and biological products. ■

Endnotes

- 1 In addition, other funds have been made available for vaccine-related efforts. For example, in fiscal year 2020, up to roughly \$30 billion was made available to the National Institutes of Health, the Department of Defense, and the Public Health and Social Services Emergency Fund for vaccine development, manufacturing, and purchase until September 30, 2024. In fiscal year 2021, nearly \$20 billion is available for the costs associated with manufacturing, producing, and purchasing vaccines, therapeutics, and ancillary supplies (Congressional Research Service 2021).
- 2 Under Section 319 of the Public Health Services Act, the Secretary of Health and Human Services may determine that a disease or disorder presents a public health emergency (PHE) or that a PHE, including significant outbreaks of infectious disease or bioterrorist attacks, otherwise exists. The Secretary first determined the existence of a coronavirus PHE, based on confirmed cases of COVID-19 in the U.S., on January 31, 2020. At the time of publication of this report, the coronavirus PHE had been renewed several times for 90-day periods, most recently on April 21, 2021.
- 3 Medicare beneficiaries enrolled in Medicare Advantage (MA) HMOs and preferred provider organizations (PPOs) face no cost sharing for Part B preventive vaccines furnished at in-network providers. If an MA HMO enrollee uses a non-network provider, the beneficiary could have to pay the full cost of the vaccine; an MA PPO enrollee using a non-network provider would be subject to the PPO's cost-sharing rules for non-network care. (However, for the duration of the coronavirus public health emergency, MA plans must cover vaccines received out-of-plan, and the care is to be considered in-network for purposes of determining cost sharing, which in the case of Part B vaccines means there is zero cost sharing).
- 4 CMS reports a plan-level pneumococcal vaccine measure (referred to as "pneumonia vaccine") in a zipped file on the agency's website. However, this measure is not included in CMS's online MA Plan Finder that enables beneficiaries to compare plans in a given area. The National Committee on Quality Assurance has been evaluating a composite measure for the Healthcare Effectiveness Data and Information Set that would incorporate rates of immunization for four routine adult vaccines: influenza; tetanus, diphtheria, and pertussis (Tdap) or tetanus and diphtheria booster vaccine (Td); herpes zoster; and pneumococcal.
- 5 The effectiveness of various types of influenza vaccines in the elderly is an active area of research. Accumulated research suggests that a high dose of trivalent inactivated influenza vaccine is more effective than a standard dose of inactivated influenza vaccine in this population. However, data are still limited (Grohskopf et al. 2019). For the 2020 to 2021 flu season, two new vaccines are available for individuals ages 65 or older: a high-dose quadrivalent version of Fluzone, which replaces the high-dose trivalent version, and Flud quadrivalent (Splete 2020).
- 6 ACIP decided to no longer recommend that all healthy elderly persons receive a one-time Prevnar 13 (PCV13) vaccination because the "incidence of PCV13-type disease has been reduced to historically low levels among adults ages ≥65 years through indirect effects from pediatric PCV13 use. Implementation of a PCV13 recommendation for all adults ages ≥65 years in 2014 has had minimal impact on PCV13-type disease at the population in this age group" (Matanock et al. 2019).
- 7 As of November 2020, Zostavax, which was approved by the FDA in 2006 for the prevention of shingles, is no longer available for use in the U.S. (Centers for Disease Control and Prevention 2020c). In 2017, ACIP recommended Shingrix preferentially over Zostavax based on information about their relative efficacy (Dooling et al. 2018).
- 8 Shingles vaccination rates in 2018 may have been affected by the shortage of Shingrix vaccine that year (Castia Rx 2019). When we examined the preliminary claims data for 2019, we found that shingles vaccination rates for this cohort of beneficiaries may have been about 37 percent by the end of 2019.
- 9 Research has found that the Tuskegee Syphilis Study resulted in African Americans' skepticism about vaccines and a general mistrust of the health care system (Carroll 2016, Quinn et al. 2017, Schaffer DeRoo et al. 2020).
- 10 In 2005, CMS issued a final rule requiring Medicare and Medicaid long-term care facilities to offer flu and pneumococcal vaccines to their residents and document instances in which the resident or his or her legal representative received appropriate education but refused to take a vaccine (<https://www.federalregister.gov/documents/2005/10/07/05-19987/medicare-and-medicaid-programs-condition-of-participation-immunization-standard-for-long-term-care>).
- 11 In 2019, Part D claims for Shingrix accounted for 99.9 percent of all shingles vaccines administered to Part D enrollees.
- 12 Immunizers paid 95 percent of AWP include physician offices, mass immunizers, freestanding dialysis facilities, hospices, comprehensive outpatient rehabilitation facilities, and Indian Health Service hospitals. Immunizers paid reasonable cost

include hospitals (other than Indian Health Service hospitals), skilled nursing facilities, home health agencies, hospital-based dialysis facilities, RHCs, and FQHCs. “Reasonable cost” is a payment methodology in which the provider’s final payment is determined at cost report settlement based on an estimate of the provider’s cost for vaccines using the provider’s charges for the vaccines and a cost-to-charge ratio.

- 13 CMS has generally relied on the vaccine Current Procedural Terminology codes developed by the American Medical Association, although CMS could use other billing codes if the agency determined there was reason to do so.
- 14 If a billing code contains only one manufacturer’s vaccine and several national drug codes (NDCs) exist for that vaccine (e.g., because the manufacturer offers the vaccine in several package sizes), Medicare sets the payment rate at 95 percent of the lowest AWP per unit across the manufacturer’s NDCs.
- 15 RHCs and FQHCs are not paid for influenza or pneumococcal vaccines through claims submission and are instead paid for these services retroactively at cost report settlement. The hepatitis B vaccine is included in the all-inclusive rate paid for visits to these providers and they do not receive separate payment for this vaccination.
- 16 These data are based on Medicare claims and do not include vaccines administered by RHCs and FQHCs that are paid under the cost report (and not claims).
- 17 These four vaccines are paid at a rate of 106 percent of average sales price (ASP) in the physician office setting. Under the hospital outpatient prospective payment system (OPPS), Medicare packages payment for low-cost drugs and biologics into the payment for associated services. Consequently, the OPPS pays separately for the rabies vaccine at a rate of 106 percent of ASP and packages payment for the other three vaccines (hepatitis A, Td, and Tdap).
- 18 Beneficiaries who receive a Part B–covered vaccine to address injury or direct exposure (e.g., rabies vaccine) are subject to 20 percent cost sharing, the same cost-sharing requirement as for Part B–covered drugs and biologics.
- 19 “Grandfathered” refers to individual health insurance policies purchased before the ACA’s date of enactment, March 23, 2010. The same section of the ACA also required coverage without cost sharing of all A- and B-rated evidence-based items or services recommended by the U.S. Preventive Services Task Force.
- 20 For influenza, pneumococcal, and COVID-19 immunizations, Medicare permits nontraditional providers that normally are not eligible to bill Medicare—such as pharmacists, supermarkets, senior centers, and public health clinics—to enroll as mass immunizers for the purpose of providing

vaccinations to large numbers of individuals. Mass immunizers are required to be properly licensed in the state where they operate. Mass immunizers are permitted to use roster billing, a simplified process for submitting claims to Medicare for multiple enrollees. Medicare permits traditional Medicare providers also to register as mass immunizers for the purpose of using roster billing if they wish.

- 21 According to the CDC, a person cannot get shingles from someone who has shingles. Therefore, increasing rates of shingles vaccination would be expected to reduce the incidence of shingles among vaccinated individuals, but would not be expected to affect the number of unvaccinated beneficiaries who acquire shingles.
- 22 For example, compared with matched controls, a greater percentage of patients 50 years or older diagnosed with shingles (between 2008 and 2013) had, in the 12 months following diagnosis, at least one inpatient visit (8 percent versus 11 percent), emergency department visit (13 percent versus 21 percent), outpatient hospital visit (53 percent versus 64 percent), office visit (85 percent versus 98 percent), and pharmacy claims (69 percent versus 80 percent) (Meyers et al. 2017). The authors also reported that compared with matched controls, the incremental health care utilization attributable to shingles was 5.8 office visit claims, 2.7 outpatient hospital visit claims, 2.0 other outpatient visit claims, 0.3 emergency department visits, 0.05 inpatient visit claims, and 4.4 pharmacy claims.
- 23 These three studies each received some funding from manufacturers of the shingles vaccines.
- 24 In addition to paying for the ingredient cost, Part D plans also pay immunizers a small dispensing fee and an administration fee. For Shingrix, the median dispensing fee is \$0.50 and the administration fee is \$20.
- 25 A two-quarter lag in ASP payment rates for drugs and biologics exists due to the time needed for the manufacturer to report ASP data to CMS and for CMS to establish a new payment rate. For example, a manufacturer reporting ASP data for the first quarter of the year is required to submit that data by 30 days after the close of the quarter. Once CMS receives the ASP data 30 days into second quarter, CMS has the remainder of the second quarter to process the data and establish a payment rate that will become effective for the next calendar quarter, that is, the third quarter of the year.
- 26 The 340B Drug Pricing Program permits participating hospitals that meet certain criteria to obtain outpatient drugs at substantially discounted prices. Under the outpatient prospective payment system, Medicare pays a lower rate of ASP – 22.5 percent to 340B hospitals for nonvaccine drugs and biologics in recognition of the statutory discounts those providers receive through the 340B program. Vaccines are

- not considered “covered outpatient drugs” for purposes of the 340B program, so 340B providers do not receive statutory discounts on vaccines.
- 27 Some FQHC stakeholders have raised concern about the cash flow lags resulting from payment of vaccines at cost report settlement (Centers for Medicare & Medicaid Services 2014).
- 28 As part of this NCD process, the statute states that the Secretary may conduct an assessment of the relationship between predicted outcomes and the expenditures for such service and may take into account the results of such assessment in making such determination.
- 29 Such a process should give the Secretary the discretion to temporarily bypass the coverage determination process if the Secretary determines there is substantial and significant evidence that public health would be harmed due to a delay in coverage, such as in the case of a public health emergency.
- 30 The 2020 MIPS quality measure list included over 200 measures from which clinicians could choose.
- 31 CMS removed the shingles measure, effective payment year 2022 (Centers for Medicare & Medicaid Services 2019c).
- 32 MA plans are not liable for the cost of administering COVID-19 vaccines in plan years 2020 and 2021 (because these costs for new coverage were not included in the MA benchmarks), and providers administering COVID-19 vaccines during this time period bill FFS Medicare to receive payment for vaccine administration. Beginning in plan year 2022, MA plans will be responsible for the cost of COVID-19 vaccine administration.

References

Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2020. *2020 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*. Washington, DC: Boards of Trustees.

Carroll, A. 2016. Did infamous Tuskegee study cause lasting mistrust of doctors among Blacks? *New York Times*, June 17.

Castia Rx. 2019. Important news: Shingrix Buspirone shortages. https://www.castiarx.com/wp-content/uploads/2019/03/Important-News_Shingrix-Buspirone-Shortages_0219-1.pdf.

Center for Value-Based Insurance Design. 2017. *Cost sharing for immunizations in Medicare: Impacts on beneficiaries and recommendations for policymakers*. Ann Arbor, MI: Center for VBID. <https://vbidcenter.org/cost-sharing-for-immunizations-in-medicare-impacts-on-beneficiaries-and-recommendations-for-policymakers/>.

Centers for Disease Control and Prevention. 2021. Frequently asked questions on vaccine supply. <https://www.cdc.gov/fluvaxview/vaxdistribution.htm>.

Centers for Disease Control and Prevention. 2020a. COVID-19 cases, hospitalization, and death by race/ethnicity. <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html>.

Centers for Disease Control and Prevention. 2020b. Renal disease and adult vaccination. <https://www.cdc.gov/vaccines/adults/rec-vac/health-conditions/renal-disease.html>.

Centers for Disease Control and Prevention. 2020c. What everyone should know about Zostavax. <https://www.cdc.gov/vaccines/vpd/shingles/public/zostavax/index.html>.

Centers for Disease Control and Prevention. 2019a. 2019 BRFSS questionnaire. <https://www.cdc.gov>.

Centers for Disease Control and Prevention. 2019b. Flu vaccination coverage, United States, 2018–19 influenza season. <https://www.cdc.gov/flu/fluview/coverage-1819estimates.htm>.

Centers for Disease Control and Prevention. 2019c. Pneumococcal vaccination among U.S. Medicare beneficiaries aged 65+ years, 2009–2017. <https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/pcv13-medicare-beneficiaries.html>.

Centers for Disease Control and Prevention. 2018. Advisory Committee on Immunization Practices (ACIP) charter. <https://www.cdc.gov/vaccines/acip/committee/charter.html>.

Centers for Disease Control and Prevention. 2006. Influenza vaccination of health care personnel. <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5502a1.htm>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020a. *List of measures under consideration for December 21, 2020*. Baltimore, MD: CMS. <https://www.cms.gov/files/document/measures-under-consideration-list-2020-report.pdf>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020b. Medicare program; CY 2021 payment policies under the physician fee schedule and other changes to Part B payment policies; Medicare Shared Savings Program requirements; Medicaid Promoting Interoperability Program requirements for eligible professionals; Quality Payment Program; coverage of opioid use disorder services furnished by opioid treatment programs; Medicare enrollment of opioid treatment programs; electronic prescribing for controlled substances for a covered Part D drug; payment for office/outpatient evaluation and management services; Hospital IQR Program; establish new code categories; Medicare Diabetes Prevention Program (MDPP) Expanded Model emergency policy; coding and payment for virtual check-in services interim final rule policy; coding and payment for personal protective equipment (PPE) interim final rule policy; regulatory revisions in response to the public health emergency (PHE) for COVID–19; and finalization of certain provisions from the March 31st, May 8th and September 2nd interim final rules in response to the PHE for COVID–19. Final rule and interim final rule. *Federal Register* 85, no. 248 (December 28): 84472–85377.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019a. Announcement of calendar year (CY) 2020 Medicare Advantage capitation rates and Medicare Advantage and Part D payment policies and final call letter. April 1.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019b. *Medicare Part D vaccines*. Medicare Learning Network fact sheet. Baltimore, MD: CMS.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019c. Medicare program; CY 2020 revisions to payment policies under the physician fee schedule and other changes to Part B payment policies; Medicare Shared Savings Program requirements; Medicaid Promoting Interoperability Program requirements for eligible professionals; establishment of an ambulance data collection system; updates to the Quality Payment Program; Medicare enrollment of opioid treatment programs and enhancements to provider enrollment regulations concerning improper prescribing and patient harm; and amendments to physician self-referral law advisory opinion

regulations final rule; and coding and payment for evaluation and management, observation and provision of self-administered Esketamine. Final rule. *Federal Register* 84, no. 221 (November 15): 62568–63563.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019d. State and national benchmarks for MA & PDP CAHPS survey, 2019. <https://www.ma-pdpcahps.org/globalassets/ma-pdp/comparative-data/2019-medicare-cahps-scores-by-state.pdf>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2018. State-national mean for MAPDP CAHPS survey 2018. <http://ma-pdpcahps.org>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2014. Medicare program; prospective payment system for Federally Qualified Health Centers; changes to contracting policies for rural health clinics; and changes to clinical laboratory improvement amendments of 1988 enforcement actions for proficiency testing referral. *Federal Register* 79, no. 85 (May 2): 25435–25482.

Congressional Research Service. 2021. *Funding for COVID-19 vaccines: An overview*. Washington, DC: CRS. <https://crsreports.congress.gov/product/pdf/IN/IN11556>.

Dooling, K., M. Marin, M. Wallace, et al. 2021. The Advisory Committee on Immunization Practices' updated interim recommendation for allocation of COVID-19 vaccine—United States, December 2020. *Morbidity and Mortality Weekly Report* 69, no. 5152 (January 1): 1657–1660.

Dooling, K. L., A. Guo, M. Patel, et al. 2018. Recommendations of the Advisory Committee on Immunization Practices for use of herpes zoster vaccines. *Morbidity and Mortality Weekly Report* 67, no. 3 (January 26): 103–108.

Flowers, L., S. Sinclair, and B. Umans. 2008. *Racial and ethnic disparities in influenza and pneumococcal immunization rates among Medicare beneficiaries*. Washington, DC: AARP Public Policy Institute.

Freed, M., J. Cubanski, T. Neuman, et al. 2020. *What share of people who have died of COVID-19 are 65 and older—and how does it vary by state?* Washington, DC: Kaiser Family Foundation.

Funk, C., and A. Tyson. 2021. *Growing share of Americans say they plan to get a COVID-19 vaccine—or already have*. Washington, DC: Pew Research Center.

Galewitz, P. 2020. Shingles vaccination rate soars but leaves many behind. *Kaiser Health News*, July 9.

Gallagher, S. 2019. The many faces of vaccine hesitancy. *Research News*, April 21. <https://globalhealth.duke.edu/news/many-faces-vaccine-hesitancy>.

Grohskopf, L. A., E. Alyanak, K. R. Broder, et al. 2019. Prevention and control of seasonal influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2019–20 influenza season. *Morbidity and Mortality Weekly Report* 68, no. 3 (August 23): 1–21.

Grohskopf, L. A., L. C. Liburd, and R. R. Redfield. 2020. Addressing influenza vaccination disparities during the COVID-19 pandemic. *Journal of the American Medical Association* (August 20).

Hall, L. L., L. Xu, S. M. Mahmud, et al. 2020. A map of racial and ethnic disparities in influenza vaccine uptake in the Medicare fee-for-service program. *Advanced Therapeutics* 37, no. 5 (May): 2224–2235.

Hughes, R., A. Napoles, and C. Liow. 2019. Linking vaccines and quality: A public health imperative in a value-based era. *Health Affairs* blog. Commonwealth Fund. May 24. <https://www.healthaffairs.org/doi/10.1377/hblog20190522.213919/full>.

Jarrett, C., R. Wilson, M. O'Leary, et al. 2015. Strategies for addressing vaccine hesitancy—A systematic review. *Vaccine* 33, no. 34 (Aug 14): 4180–4190.

Johnson, B. H., L. Palmer, J. Gatwood, et al. 2016. Healthcare resource utilization and costs associated with herpes zoster in the US. *Journal of Medical Economics* 19, no. 10 (October): 928–935.

Levy, S. 2020. Immunization nation: Pharmacist vaccination offers key resource against disease. *Drug Store News*, August 8.

MacDonald, N. E. 2015. Vaccine hesitancy: Definition, scope and determinants. *Vaccine* 33, no. 34 (August 14): 4161–4164.

Marrujo, G., B. Negrusa, D. Ullman, et al. 2020. *Comprehensive End-Stage Renal Disease Care (CEC) Model performance year 3 annual evaluation report*. Arlington, VA: The Lewin Group.

Matanock, A., G. Lee, R. Gierke, et al. 2019. Use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine among adults aged ≥65 years: Updated recommendations of the Advisory Committee on Immunization Practices. *Morbidity and Mortality Weekly Report* 68, no. 46 (November 22): 1069–1075.

Medicare Payment Advisory Commission. 2019. *A data book: Health care spending and the Medicare program*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2007. *Report to the Congress: Promoting greater efficiency in Medicare*. Washington, DC: MedPAC.

Meyers, J. L., S. Madhwani, D. Rausch, et al. 2017. Analysis of real-world health care costs among immunocompetent patients aged 50 years or older with herpes zoster in the United States. *Human Vaccines & Immunotherapeutics* 13, no. 8 (August 3): 1861–1872.

National Association of Chain Drug Stores. 2020. *Pharmacies: A vital partner in reopening America*. Arlington, VA: NACDS.

National Community Pharmacists Association. 2019. *2019 NCPA digest: Changing the pharmacy payment model*. Alexandria, VA: NCPA.

National Quality Forum. 2014. *Priority setting for healthcare performance measurement: Addressing performance measure gaps for adult immunizations*. Washington, DC: NQF.

Office of Disease Prevention and Health Promotion, Department of Health and Human Services. 2020. Healthy People. Immunization and infectious disease objectives. <https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives>.

Office of Inspector General. 2010. *End-stage renal disease drugs: Facility acquisition costs and future Medicare payment concerns*. OEI-03-09-00280. Washington, DC: OIG. <http://oig.hhs.gov/oei/reports/oei-03-09-00280.pdf>.

Office of Inspector General, Department of Health and Human Services. 2007. *Intravenous immune globulin: Medicare payment and availability*. OEI-03-05-00404. Washington, DC: OIG.

Office of Inspector General, Department of Health and Human Services. 2006. *Medicare reimbursement for new end-stage renal disease drugs*. OEI-03-06-00200. Washington, DC: OIG.

Quinn, S. C., A. Jamison, V. S. Freimuth, et al. 2017. Exploring racial influences on flu vaccine attitudes and behavior: Results of a national survey of White and African American adults. *Vaccine* 35, no. 8 (February 22): 1167–1174.

Schaffer DeRoo, S., N. J. Pudalov, and L. Y. Fu. 2020. Planning for a COVID-19 vaccination program. *JAMA* 323, no. 24 (June 23): 2458–2459.

Splete, H. 2020. ACIP approves flu vaccine recommendations for 2020–2021. *MD Edge*, June 25. <https://www.mdedge.com/familymedicine/article/224471/vaccines/acip-approves-flu-vaccine-recommendations-2020-2021>.

Terlizzi, E., and L. Black. 2020. *Shingles vaccination among adults aged 60 and over: United States, 2018*. NCHS data brief, no. 370. Hyattsville, MD: National Center for Health Statistics. <https://www.cdc.gov/nchs/data/databriefs/db370-h.pdf>.

Williams, W. W., P. J. Lu, A. O'Halloran, et al. 2017. Surveillance of vaccination coverage among adult populations—United States, 2015. *Morbidity and Mortality Weekly Report* 66, no. 11 (May 5): 1–28.

Xavioer, S., and J. Goad. 2017. Authority and scope of vaccination: How states differ. *Pharmacy Times*, June 22. <https://www.pharmacytimes.com/publications/supplementals/2017/ImmunizationSupplementJune2017/authority-and-scope-of-vaccination-how-states-differ>.

Yan, S., M. DerSarkissian, R. H. Bhak, et al. 2018. Relationship between patient copayments in Medicare Part D and vaccination claim status for herpes zoster and tetanus-diphtheria-acellular pertussis. *Current Medical Research and Opinion* 34, no. 7 (July): 1261–1269.

Yawn, B. P., R. F. Itzler, P. C. Wollan, et al. 2009. Health care utilization and cost burden of herpes zoster in a community population. *Mayo Clinic Proceedings* 84, no. 9 (September): 787–794.

C H A P T E R

8

**Improving Medicare's policies
for separately payable drugs
in the hospital outpatient
prospective payment system**

R E C O M M E N D A T I O N S

8-1 The Congress should direct the Secretary to modify the pass-through drug policy in the hospital outpatient prospective payment system so that it:

- includes only drugs and biologics that function as supplies to a service, and
- applies only to drugs and biologics that are clinically superior to their packaged analogs.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

.....

8-2 The Secretary should specify that the separately payable non-pass-through policy in the hospital outpatient prospective payment system applies only to drugs and biologics that are the reason for a visit and meet a defined cost threshold.

COMMISSIONER VOTES: YES 16 • NO 0 • NOT VOTING 0 • ABSENT 1

Improving Medicare's policies for separately payable drugs in the hospital outpatient prospective payment system

Chapter summary

The unit of payment in the hospital outpatient prospective payment system (OPPS) is the primary service, which is a service that is the reason for which a patient makes a visit to a hospital outpatient department (HOPD). During an outpatient visit, providers typically furnish ancillary services and supplies with the primary service. Under the OPPS, the costs of these ancillary items are generally “packaged” into the payment rate of the related primary service and paid for as a unit. Packaged payments encourage efficiency because the combination of inputs used to treat a patient determines whether the provider experiences a financial gain or loss.

Although packaging ancillary items has the benefit of encouraging efficiency, not all ancillary items are packaged under the OPPS. If an ancillary item is costly relative to the payment rate of the related primary service and infrequently used with that service, providers might avoid using that ancillary item if it were packaged because of the risk of financial loss. Therefore, under the OPPS, ancillary items that are relatively high cost are typically not packaged. The separate payment for some ancillary items under the OPPS contrasts with the inpatient prospective payment system (IPPS), which packages nearly all ancillary items. The rationale for packaging fewer ancillary items under the OPPS relative to the IPPS is that the size and cost of the payment units are smaller in the OPPS than in the IPPS. The unit of

In this chapter

- Background
- When are drugs separately payable under the OPPS?
- Concerns about OPPS policies for separately payable drugs
- Improving OPPS policy for new drugs that are supplies to a service
- Improving OPPS policy for drugs that are the reason for a visit
- Recommendations

payment in the OPPS is the primary service, while the unit of payment in the IPPS is an entire inpatient stay.

Like services, drugs that are furnished during HOPD visits can be the reason for the visit or can be ancillary supplies to a primary service. Medicare pays separately for most drugs that are the reason for a visit under the current structure of the OPPS, whereas most drugs used as ancillary supplies to a primary service are packaged into the payment rate of the applicable service. However, some drugs that are ancillary supplies to a service, new to the drug market, and costly in relation to the applicable service would be substantially underpaid if they were packaged with a primary service when they first come to market because the data are not sufficient to accurately reflect the costs of the drugs in the payment rates for the applicable services.

Through statute and regulatory action, the OPPS has two policies that provide separate payment for drugs: the pass-through policy and the separately payable non-pass-through (SPNPT) policy. Although both policies provide separate payments for drugs, they serve somewhat different purposes. The pass-through policy is focused on drugs that are new to the market and have costs that are high in relation to the OPPS payment rates for the applicable services (the services with which they would be packaged). The intent of the pass-through policy is to provide temporary separate payments to ensure adequate reimbursement for these drugs while CMS collects the data needed to establish accurate packaged payments. In contrast, the SPNPT policy is intended to provide adequate payment for relatively high-cost drugs that are already established in the drug market, such that they have been on the market too long to be eligible for the pass-through policy.

The Commission is concerned that the criteria for drugs to be eligible for separate payment under the OPPS do not strike an appropriate balance between promoting access to high-cost innovative treatments and maintaining pressure on providers to be efficient. Specific concerns include the following:

- The pass-through policy does not include a requirement that a drug show clinical superiority over similar treatments to qualify. Without a clinical superiority requirement, Medicare could pay separately for a drug no more effective than a competing drug already in use, even when the cost of the existing drug is reflected in the OPPS payment rate for the applicable service. This situation results in Medicare making additional payments for a drug that is no more effective than less costly drugs.
- Both the pass-through and SPNPT policies include drugs that are the reason for a visit. It would be more efficient administratively to pay separately for drugs that are the reason for a visit through a single policy.

- The payment rates for drugs that are the reason for a visit can differ depending on whether the drug is paid separately under the pass-through policy (as these drugs are during their first few years on the market) or under the SPNPT policy (as these drugs are after they are no longer eligible for pass-through status). By statute, OPPS payment rates for pass-through drugs are set at average sales price (ASP) + 6 percent, while CMS has established a policy of setting the payment rates for SPNPT drugs obtained through the 340B Drug Pricing Program at ASP – 22.5 percent. Consequently, providers that obtain their OPPS drugs through the 340B program—which account for more than 50 percent of Medicare spending for separately payable drugs in the OPPS—have a financial incentive to use pass-through drugs rather than similar SPNPT drugs.

To improve Medicare’s payments for drugs provided under the OPPS, the Commission recommends that the Congress modify the pass-through policy so that it includes only drugs that are supplies to a service and requires drugs to be clinically superior to other therapeutically similar drugs to be eligible for pass-through status. In addition, we recommend that the Secretary modify the SPNPT policy so that it explicitly applies only to drugs that are the reason for a visit, including those that are new to the market. ■

Background

The unit of payment in the hospital outpatient prospective payment system (OPPS) is the primary service, which is a service that is the reason a patient makes a visit to a hospital outpatient department (HOPD) and typically constitutes most of the resources required during the visit. During an outpatient visit, providers typically furnish ancillary services and supplies with the primary service. Under the OPPS, the costs of these ancillary items are generally packaged into the payment rate of the related primary service, and the primary service and the ancillary items are paid for as a unit. This packaging of ancillary items contrasts with a fee schedule, under which Medicare makes separate payments for the primary service and for each ancillary item. Making a single payment for a primary service and related ancillary items encourages efficiency because the combination of inputs used to treat a patient determines whether the provider experiences a financial gain or loss.

Although packaging ancillary items has the benefit of encouraging efficiency, not all ancillary items are packaged under the OPPS. If an ancillary item is costly relative to the payment rate of the related primary service and infrequently used with that service, only a small share of the cost of the ancillary item would be reflected in the payment rate. If the item were packaged with the related primary service under these circumstances, providers might avoid using the ancillary item because of the risk of financial loss. Therefore, under the OPPS, ancillary items that are relatively high cost are typically not packaged with primary services for purposes of payment. The separate payment of some ancillary items under the OPPS contrasts with the inpatient prospective payment system (IPPS), which packages nearly all ancillary items. The rationale for allowing separate payment for more ancillary items under the OPPS than under the IPPS is that the size and cost of the payment units are smaller in the OPPS. The unit of payment in the OPPS is the primary service delivered during a visit to an HOPD, while the unit of payment in the IPPS is an entire inpatient stay.¹

As with ancillary items provided under the OPPS, there is no separate payment for many drugs. Instead, the costs of these drugs are packaged into the payment rates of the related primary services. These packaged drugs are ancillary to a service, are relatively low cost, and generally serve as supplies. Packaging drugs does not mean that

there is no reimbursement to the providers that use these drugs. Instead, the costs of the drugs are at least partially reflected in the payment rates for the related services.

But not all drugs provided under the OPPS are packaged with primary services. The OPPS pays for many drugs and biologics (which we refer to collectively as “drugs”) by means of payments separate from the services that utilize them. These separately payable drugs have become an increasingly important component of the OPPS. From 2011 to 2019, Medicare spending for separately payable drugs under the OPPS rose from \$5.1 billion to \$14.8 billion. Most of this spending—73 percent in 2019—was for drugs used in cancer treatment.

In general, Medicare makes separate payments for OPPS drugs in two circumstances. First, separate payments are made for high-cost drugs that are the reason for a visit rather than being ancillary to a service (such as many chemotherapy drugs). Second, separate payments are made for some ancillary drugs (drugs that serve as supplies to a service) that have relatively high costs and those costs are not accurately reflected in the payment rate for the applicable primary service. This discrepancy occurs when a drug is new to the market and CMS does not have the cost and use data needed to appropriately incorporate the cost of the drug into the payment rate for the applicable service.

In our June 2020 report to the Congress, the Commission asserted that separate payments for drugs under the OPPS are appropriate in the following circumstances (Medicare Payment Advisory Commission 2020):²

- ***New drugs that are supplies to a service, are high cost, have a small share of their cost reflected in the applicable services, and show clinical superiority over similar drugs.*** CMS does not have the data needed to include in the payment rates for the applicable services the costs of new drugs that are supplies to a service. However, any new drug that is a supply to a service should be packaged if it does not show clinical superiority over existing similar drugs that are already packaged. Without a clinical superiority requirement, Medicare could pay separately for a new drug that is no more effective than a competing product already in use, even when the cost of the competing product is reflected in the OPPS payment for the related primary service. For a new high-cost ancillary drug that is clinically superior, separate payment should be time-limited; the drug

should be packaged once CMS has collected the necessary cost data.

- ***New and existing drugs that are the reason for a visit and have costs that exceed a threshold.*** A practical definition for these drugs is that they typically do not have any services provided during the visit other than the drug administration service. In these cases, the drug is, essentially, the primary service and the drug administration is ancillary. Many of these drugs are for cancer treatment, but some—such as infliximab, which treats autoimmune disorders—treat other conditions. However, if a drug that is the reason for a visit has relatively low costs, it is reasonable to package the costs of the drug into the payment rate for the applicable drug administration service. Therefore, a policy for separate payment of drugs that are the reason for a visit should require a drug to have costs per day that exceed a specified threshold.

The Commission is concerned that the OPPS policies for separately payable drugs do not strike an appropriate balance between promoting access to high-cost innovative treatments and maintaining pressure on providers to be efficient. In this chapter, we review Medicare’s policies for separately payable drugs under the OPPS and provide recommendations for improvement.

When are drugs separately payable under the OPPS?

Through statute and regulatory action, the OPPS has two policies that provide separate payment for drugs: the pass-through policy and the separately payable non-pass-through (SPNPT) policy. Although both policies provide separate payments for drugs, they serve somewhat different purposes. The pass-through policy provides temporary separate payments for relatively high-cost drugs that are new to the market. The purpose is to provide adequate payment for these drugs because the data needed to include their costs in the payment rates of the applicable services are not available, simply because the drugs are new. When the needed data become available, CMS can include the costs of these drugs in the payment rates of the applicable services. In contrast, the SPNPT policy is intended to provide adequate payment for relatively high-cost drugs that are already established in the drug market—meaning the drug has been on the market too

long to be eligible for the pass-through policy. CMS has always required that a drug’s cost per day must exceed a threshold to have SPNPT status.

Drugs that do not have either pass-through status or SPNPT status are packaged under the OPPS. These drugs include new products that do not meet the criteria for obtaining pass-through status and established drugs that either do not meet the criteria for the SPNPT policy or are “policy-packaged” drugs, which include anesthesia drugs; drugs, biologics, and radiopharmaceuticals that function as supplies when used in a diagnostic test or procedure (including contrast agents, diagnostic radiopharmaceuticals, and stress agents); and drugs and biologics that function as supplies when used in a surgical procedure. The definition of policy-packaged drugs includes virtually all non-pass-through drugs except those that are the reason for a visit, such as chemotherapy drugs. Therefore, only drugs that are the reason for a visit can be SPNPT drugs.

Pass-through drugs

As policymakers were developing the OPPS, there was concern that data on the cost of new drugs would not be available when setting the payment rates for services in the OPPS. Without the necessary cost data, packaging these drugs with the applicable primary services could result in providers being underpaid for the new drugs because the costs would not be accurately reflected in the payment rates for the services. As a result, providers might avoid using the new drugs. The Congress addressed this issue in Section 1833(t)(6) of the Social Security Act by establishing pass-through payments for new drugs that have high costs relative to the payment rates of their associated primary services. Under this policy, when a provider uses a pass-through drug, CMS pays the provider for the primary service (and any packaged services and supplies associated with the service), plus an additional payment to reflect the estimated cost of the pass-through drug (minus the value of any therapeutically similar established drug that is already packaged with the primary service).

The requirements for a drug to be granted pass-through status include the following (Centers for Medicare & Medicaid Services 2014):

- It must be new to the market, meaning that payment for the product was not made as of December 31, 1996.³

- The cost of the product is “not insignificant” in relation to the OPPS payment rate for the related service. CMS has determined that drug costs are not insignificant if they meet these three thresholds (see text box, pp. 284–285, for hypothetical examples):
 - The estimated average reasonable cost of the drug or biologic must exceed 10 percent of the applicable ambulatory payment classification (APC) payment amount for the service related to the drug or biologic.⁴
 - The estimated average reasonable cost of the drug or biologic must exceed the drug or biologic portion of the APC payment amount for the related service by at least 25 percent.
 - The difference between the estimated reasonable cost of the drug or biologic and the estimated portion of the APC payment amount for the drug or biologic must exceed 10 percent of the APC payment amount for the related service.

Drugs that meet both the “new” criterion and the three cost thresholds are granted pass-through status, but these drugs are not required to demonstrate clinical superiority over established drugs. Drugs can hold pass-through status for two to three years. By the time a drug’s pass-through status has expired, CMS has adequate cost and use data about the drug to package the cost of the drug with the payment rate for the applicable primary service. However, most pass-through drugs are not packaged with primary services after expiration of pass-through status but rather continue to be separately paid under the SPNPT policy.

The formal definition of a pass-through payment is “the amount determined under Section 1842(o) of the Social Security Act minus the portion of the APC payment amount that CMS determines is associated with the drug or biologic” (Centers for Medicare & Medicaid Services 2019b). The amount determined under Section 1842(o) is the drug’s average sales price plus 6 percent (ASP + 6 percent). Therefore, a pass-through payment should be the difference between ASP + 6 percent for the pass-through drug and the cost of similar drugs (if any) reflected in the OPPS payment rate for the applicable primary service.

In practice, CMS uses a system in which pass-through payment eligibility depends on whether a drug is a supply to a service or the reason for the visit (Figure 8-1, p. 286). For pass-through drugs that are supplies to a service, CMS

calculates the pass-through payment as the difference between ASP + 6 percent for the pass-through drug and an “offset” that equals the amount of the cost of any drug that is clinically similar to the pass-through drug that is reflected in the payment rate for the applicable service. The difference between ASP + 6 percent and the offset amount is the payment amount the provider receives for the pass-through drug. For drugs that are the reason for a visit, CMS calculates the pass-through amount simply as ASP + 6 percent, with no offset. (See text box, p. 287, on calculating pass-through payments for illustrative examples.)

Separately payable non-pass-through drugs

The SPNPT policy focuses on higher cost drugs that have been on the market long enough for CMS to have collected the data needed to include their costs in the payment rates of the applicable services. To qualify for SPNPT status, a drug:

- must not be a pass-through drug,
- must have a cost per day that exceeds a threshold (\$130 in 2021) that is adjusted each year for drug inflation, and
- cannot be a policy-packaged drug (that is, the drug cannot be a supply to a service).

The fact that SPNPT drugs cannot be policy-packaged drugs indicates that SPNPT drugs are the reason for a visit.

The SPNPT policy is distinct from the pass-through policy in four important ways (Table 8-2, p. 288). First, the SPNPT policy is for established drugs, while the pass-through policy is for new drugs. Second, the SPNPT policy has no limit on how long a drug can hold SPNPT status, while the pass-through policy limits eligibility to two to three years. Third, SPNPT drugs must exceed a single cost per day threshold, while pass-through drug costs must exceed three thresholds related to the payment rate of the associated service. Fourth, payment rates for pass-through drugs, set in statute, must be based on ASP + 6 percent, while payment rates for SPNPT drugs have been set by CMS through regulation at ASP – 22.5 percent if the drug is obtained through the 340B Drug Pricing Program and ASP + 6 percent if the drug is not obtained through the 340B program.⁵ Neither policy requires drugs to show clinical superiority over other drugs.

Determining pass-through status for drugs under current OPPS policy: Illustrative examples

The hospital outpatient prospective payment system (OPPS) has a pass-through payment policy for drugs that are new to the market. To qualify for pass-through payments, a new drug must meet all three cost criteria:

- The estimated average reasonable cost of the drug or biologic must exceed 10 percent of the applicable ambulatory payment classification (APC) payment amount for the service related to the drug or biologic.
- The estimated average reasonable cost of the drug or biologic must exceed the drug or biologic portion of the APC payment amount for the related service by at least 25 percent.
- The difference between the estimated reasonable cost of the drug or biologic and the estimated portion of the APC payment amount for the drug or biologic must exceed 10 percent of the APC payment amount for the related service.

Two hypothetical examples illustrate how CMS determines whether a drug meets these three cost criteria. In one example, a drug meets the three criteria; in the other example, the drug does not meet any of the criteria.

Example 1: New drug meets the three cost criteria for pass-through drugs

A new drug has a cost of \$100 per dose and is used with a service that has an OPPS payment rate of \$500. This OPPS payment rate includes \$40 for the cost of an established drug that has a therapeutic use similar to the new drug's. To determine whether the new drug meets the pass-through cost criteria under current policy, CMS would address these three questions:

- ***Does the cost of the new drug exceed 10 percent of the APC payment rate for the applicable service?*** The cost of the new drug (\$100) divided by the payment rate for the applicable service (\$500) is 0.2, which means the cost of the drug is 20 percent of the OPPS payment rate of the applicable service. Therefore, this drug meets this cost criterion.
- ***Is the cost of the new drug more than 25 percent higher than the drug costs reflected in the APC payment rate for the applicable service?*** The cost of the new drug (\$100) is 150 percent higher than the cost of the established drug that is reflected in the APC payment rate of the applicable service (\$40). Therefore, this drug meets this cost criterion.

(continued next page)

The OPPS packages drugs that do not have pass-through status or SPNPT status. These drugs include new products that do not have pass-through status and established drugs that either cost less than \$130 per day or are policy-packaged drugs. Under no circumstances are policy-packaged drugs paid separately under the SPNPT policy.

Concerns about OPPS policies for separately payable drugs

The Commission is concerned that the criteria for eligibility for separate payment under the OPPS do not strike an appropriate balance between promoting access to high-cost innovative treatments and maintaining pressure on providers to be efficient. One concern is that the pass-

Determining pass-through status for drugs under current OPPS policy: Illustrative examples (cont.)

- ***Does the difference between the cost of the new drug and the drug costs that are reflected in the APC payment rate for the applicable service exceed 10 percent of the APC payment rate for the applicable service?*** The difference between the cost of the new drug (\$100) and the cost of the established drug that is reflected in the applicable APC payment rate (\$40) is \$60, which is 12 percent of the OPPS payment rate of the applicable service (\$500). Therefore, this drug meets this cost criterion.

CMS would not consider the new drug's efficacy relative to established packaged drugs in determining eligibility for pass-through payments. Because the new drug meets all three pass-through cost criteria, it would be granted pass-through status.

Example 2: New drug does not meet any of the three cost criteria for pass-through drugs

A new drug has a cost of \$80 per dose and is used in a service that has an APC payment rate of \$1,000. The APC payment rate includes \$70 for the cost of an established drug that has a therapeutic use similar to the new drug's. To determine whether the new drug meets the pass-through cost criteria, CMS would ask the same three questions:

- ***Does the cost of the new drug exceed 10 percent of the APC payment rate for the applicable service?*** The cost of the new drug (\$80) divided by the payment rate for the applicable service (\$1,000)

is 0.08, or 8 percent of the APC payment rate of the applicable service. Therefore, this drug does not meet this cost criterion.

- ***Is the cost of the new drug more than 25 percent higher than the drug costs that are reflected in the OPPS payment rate of the applicable service?*** The cost of the new drug (\$80) is 14.3 percent higher than the cost of the established drug that is reflected in the APC payment rate for the applicable service (\$70). Therefore, this drug does not meet this cost criterion.
- ***Does the difference between the cost of the new drug and the drug costs that are reflected in APC payment rate for the applicable service exceed 10 percent of the APC payment rate for the applicable service?*** The difference between the cost of the new drug (\$80) and the cost of the established drug that is reflected in the applicable APC payment rate (\$70) is \$10, which is 1 percent of the APC payment rate of the applicable service (\$1,000). Therefore, this drug does not meet this cost criterion.

CMS would not consider the new drug's efficacy relative to existing packaged drugs in making the decision of eligibility for pass-through payments. Because the drug meets none of the cost criteria, it would not qualify for a separate payment under the pass-through policy and instead would be packaged with the applicable primary service. ■

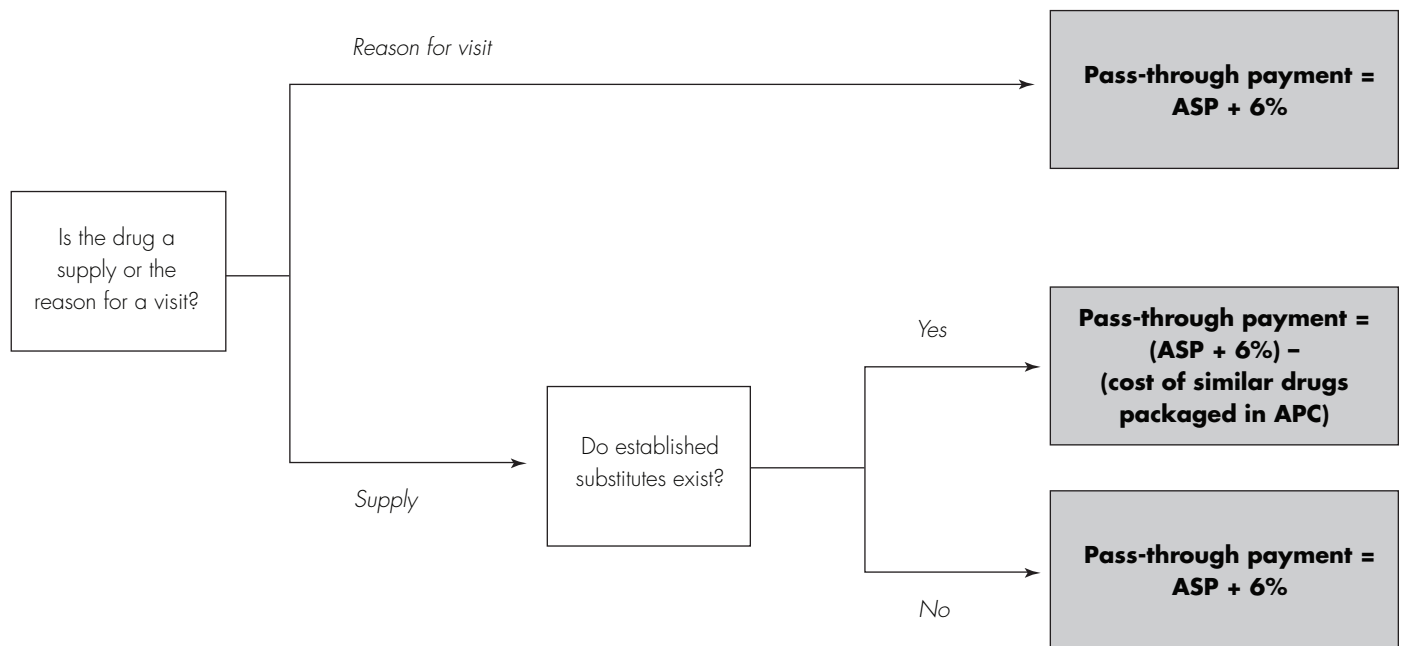
through policy does not include a requirement that a new drug show clinical superiority over established drugs that have similar clinical uses. Without a clinical superiority requirement, when a hospital uses a pass-through product, it is possible that Medicare will make additional payments for a drug that has no clinical benefit over similar drugs

that are included in the payment rate for the applicable service.

Another concern is that both the pass-through and SPNPT policies include drugs that are the reason for a visit. This overlap of the two policies causes the relatively minor issue that the OPPS system of drug payment is more

**FIGURE
8-1**

Determining payment for OPPS pass-through drugs under current policy



Note: OPPS (outpatient prospective payment system), ASP (average sales price), APC (ambulatory payment classification).

Source: MedPAC analysis.

complex than necessary. It would be more administratively efficient to pay separately for drugs that are the reason for a visit through a single policy.

A more substantive issue related to the overlap of the pass-through and SPNPT policies is that for providers obtaining drugs through the 340B Drug Pricing Program, it can be financially beneficial to choose a pass-through drug over a similar SPNPT drug. By statute, pass-through drugs must be paid at a rate of ASP + 6 percent, while CMS has established a policy that sets the payment rates for SPNPT drugs obtained through the 340B program at ASP – 22.5 percent. (CMS sets the payment rates for SPNPT drugs obtained outside the 340B program at ASP + 6 percent.) Therefore, providers participating in the 340B program face different payment policies for pass-through and SPNPT drugs, with the pass-through drugs having the pricing advantage. Because of these pricing differences, some pass-through drugs are more profitable than similar SPNPT drugs, making the pass-through drugs

more financially attractive. Because more than 50 percent of the OPPS spending for separately payable drugs occurs at 340B hospitals, this difference in pricing between pass-through and SPNPT drugs is important.⁶

Improving OPPS policy for new drugs that are supplies to a service

Medicare's OPPS payment policy for new drugs that are supplies to a service would be improved by focusing the pass-through policy on these drugs and requiring them to show clinical superiority over other drugs that have similar clinical uses as a condition of receiving separate payments. About 15 percent of the drugs that are separately payable under the current OPPS pass-through policy are drugs that are supplies to a service; the remaining 85 percent are drugs that are the reason for a visit. Restricting the pass-through policy to those drugs that function as supplies

Calculating pass-through payments for drugs under current OPPS policy: Illustrative examples

CMS uses two methods to calculate pass-through payments for drugs in the outpatient prospective payment system (OPPS). One method is for drugs that are supplies to a service, the other is for drugs that are the reason for a visit. We provide examples of how pass-through payments are calculated for both drug categories under current policy.

For pass-through drugs that are supplies to a service, we use Puraply as an example. Puraply is a skin substitute that had pass-through status through the end of 2020 (it is now packaged). The OPPS covers many skin substitutes, and all of them are packaged unless they have pass-through status. The service that most frequently uses Puraply is represented by Current Procedural Terminology (CPT) code 15271 (application of skin substitute graft to trunk, arms, or legs). The OPPS payment rate for Puraply in 2020 was \$105 per square centimeter, and the payment rate for CPT 15271 was \$1,623. Using claims data, we estimated that the mean amount of Puraply used with CPT 15271 was 11 square centimeters. The pass-through payment when a provider used the mean number of units of Puraply in 2020 was the base payment amount of \$1,155 ((11

square centimeters) × (\$105 per square centimeter)) minus the cost of the other skin substitutes packaged into the payment rate of CPT 15271 (\$760), which resulted in a pass-through payment of \$395 (\$1,155 minus \$760) (Table 8-1). In addition to the payment for CPT 15271, the provider would have received a pass-through payment of \$395 for the provision of Puraply.

For pass-through drugs that are the reason for a visit, we use Bendeka as an example. Bendeka is an alkylating agent used to treat chronic lymphocytic leukemia. In 2021, the OPPS payment rate for Bendeka was \$20.27 per milligram. Because this drug is the reason for a visit, the pass-through payment in 2020 was the full payment rate of \$20.27 times the number of units used by the provider, with no offset. This amount is also the payment received by the provider. The pass-through payment for Bendeka contrasts with the pass-through payment for Puraply: The payment for Bendeka is simply the full OPPS payment rate, while the payment for Puraply is the full OPPS payment rate less the cost of the other skin substitutes in the payment rate for CPT code 15271. ■

**TABLE
8-1**

Pass-through payment amount for Puraply skin substitute, 2020

	Amount
Total payment amount for 11 square centimeters* of Puraply	\$1,155
Cost of established skin substitutes in payment rate for applicable skin procedure	<u>– \$760</u>
Pass-through payment for Puraply	\$395
<p>Note: The applicable skin procedure for Puraply is “application of skin substitute graft to trunk, arms, or legs.”</p> <p>*The mean number of units of Puraply used by providers covered under the outpatient prospective payment system is 11 square centimeters.</p> <p>Source: MedPAC analysis of payment rates in the outpatient prospective payment system (OPPS) and data on the cost of drugs packaged into the payment rates of services covered under the OPPS, 2020. Both data sources are from CMS.</p>	

would exclude drugs that are the reason for a visit. (New drugs that are the reason for a visit would be eligible for separate payments only under the SPNPT policy, as discussed below.) During the period of a drug’s pass-through eligibility, CMS would collect the data needed to incorporate the cost of the pass-through drug into the

payment rate of the applicable service (as the agency currently does) once the drug’s pass-through eligibility expired.

The Commission has asserted that clinical superiority should be a requirement for a new drug to be granted

**TABLE
8-2****Current OPPS policies for pass-through drugs and separately payable non-pass-through drugs have important differences, but neither requires clinical superiority**

Program feature	Pass-through drugs	Separately payable non-pass-through drugs
Required to be new to market	Yes	No
Time limit	Two to three years	No
Cost requirement	Cost must exceed three thresholds related to associated service	Cost must exceed \$130 per day
Payment rate	ASP + 6 percent	ASP – 22.5% if obtained through 340B program ASP + 6% if obtained outside 340B program
Clinical superiority requirement	No	No

Note: OPPS (outpatient prospective payment system), ASP (average sales price).

Source: Final rule regulations on the hospital outpatient prospective payment system for calendar year 2021 from CMS.

separately payable status. Applying this principle to the pass-through policy means that it should be modified so it includes the current criteria but also includes a clinical superiority requirement as a condition for pass-through eligibility (Medicare Payment Advisory Commission 2020). The benefits of adding a clinical superiority requirement to the pass-through policy include the following:

- Medicare would make additional pass-through payments only if a new drug is clinically superior to established drugs that have similar therapeutic uses. New drugs that are not clinically superior would be packaged with the applicable service and paid at the established rate for the packaged service and clinically similar drugs.
- Manufacturers would have to meet a meaningful criterion to have a drug eligible for pass-through payments, beyond simply meeting the pass-through cost criteria. Therefore, manufacturers would have an incentive to dedicate more resources to developing drugs that offer better clinical outcomes and fewer resources to new products that are profitable but offer little in terms of better clinical outcomes.

We also assert that CMS should not grant pass-through status or make pass-through payments until a drug has clearly established that it is clinically superior to competing drugs. Such an approach would be consistent

with the Commission's effort to provide greater value in all Medicare fee-for-service (FFS) payment systems over the last decade.

Clinical superiority requirements for new technologies are included in several Medicare FFS payment systems, including for new equipment and supplies in the end-stage renal disease prospective payment system (PPS), new devices in the OPPS, and new drugs and devices in the new technology add-on payment (NTAP) program in the IPPS. A clinical superiority requirement for new drugs to be eligible for the OPPS's pass-through payment could be beneficial beyond the OPPS because it could encourage greater use of clinical superiority requirements for new technology in other FFS payment systems.

A clinical superiority requirement in the pass-through policy would compare the performance of a new drug with established drugs that have similar clinical uses. If the new drug were clinically better in some way, such as resulting in faster resolution of the disease process, then the drug would be eligible for pass-through status. Although several FFS Medicare payment systems have clinical improvement requirements for new technology, only the NTAP program in the IPPS includes pharmaceutical products. Therefore, the NTAP program could serve as a guide for establishing a clinical superiority requirement for pass-through drugs in the OPPS (see text box on clinical superiority criteria).

Clinical superiority criteria for drugs eligible for new technology add-on payments under Medicare's inpatient prospective payment system

Medicare's new technology add-on payment (NTAP) program under the inpatient prospective payment system applies to new drugs and technologies. Under the NTAP program, a drug demonstrates clinical superiority if it meets any one of the following criteria (Centers for Medicare & Medicaid Services 2019a):

- The drug offers a treatment option for a patient population unresponsive to, or ineligible for, other available treatments.
- The drug offers the ability to diagnose a medical condition in a patient population for which that medical condition is otherwise undetectable or offers the ability to diagnose a medical condition earlier in a patient population than possible through other methods, and use of the drug affects the management of the patient.
- Use of the drug improves clinical outcomes relative to other drugs, such as:
 - a reduction in at least one clinically significant adverse event, including a reduction in mortality or a clinically significant complication;
- a decreased rate of at least one subsequent diagnostic or therapeutic intervention (for example, due to reduced rate of recurrence of the disease process);
- a decreased number of future hospitalizations or physician visits;
- a more rapid beneficial resolution of the disease process including, but not limited to, a reduced length of stay or recovery time, an improvement in one or more activities of daily living, an improved quality of life, or a demonstrated greater medication adherence or compliance.
- The totality of the circumstances otherwise demonstrates that the drug substantially improves, relative to other drugs, the diagnosis or treatment of Medicare beneficiaries. ■

Improving OPPS policy for drugs that are the reason for a visit

The current SPNPT policy is implicitly restricted to established drugs that are the reason for a visit. To improve OPPS payment for drugs that are the reason for a visit, the SPNPT policy should be expanded to include all such drugs, both new and established. Expanding the SPNPT policy would result in new drugs that are the reason for a visit immediately becoming eligible for SPNPT payments, rather than initially receiving payments under the pass-through policy.

Expanding the SPNPT policy to include new drugs that are the reason for a visit would also mitigate the effects of

the OPPS pricing differences between the pass-through and SPNPT policies that create an incentive for 340B providers to use pass-through drugs rather than clinically similar SPNPT drugs.

To ensure the clarity of the purpose of the SPNPT policy and to reduce the incentive for providers to choose drugs based on financial considerations, the SPNPT policy should be redefined such that:

- only drugs that are the reason for the visit would be separately paid under the SPNPT policy.⁷
- it includes drugs that are new to the market as well as drugs that are already established on the market.

Recommendations

Implementing the changes that we have outlined for the system of drug payment in the OPPTS would leave both the pass-through and SPNPT policies intact, but with important modifications (Figure 8-2). To qualify for pass-through payments, drugs would have to:

- be supplies to a service (ancillary), meaning that the drug could not be the reason for a visit.
- be new to the market, meaning that the drug had not been on the market long enough for CMS to have the data necessary to package the cost of the drug with the payment rate of the applicable service.
- meet the current three criteria for cost being “not insignificant” in relation to the payment rate for the service associated with the drug.
- show clinical superiority over similar drugs used in provision of the same service.

Drugs that are supplies to a service and that do not have pass-through status would continue to be packaged with their associated services.

To qualify for SPNPT payments, both new and established drugs would have to:

- be the reason for the visit and
- have a cost per day that exceeds a dollar threshold. The current threshold is \$130 per day (and annually adjusted for inflation), but CMS should reevaluate to determine whether \$130 per day is the appropriate level.

RECOMMENDATION 8 - 1

The Congress should direct the Secretary to modify the pass-through drug policy in the hospital outpatient prospective payment system so that it:

- **includes only drugs and biologics that function as supplies to a service, and**
- **applies only to drugs and biologics that are clinically superior to their packaged analogs.**

RECOMMENDATION 8 - 2

The Secretary should specify that the separately payable non-pass-through policy in the hospital outpatient prospective payment system applies only to drugs and biologics that are the reason for a visit and meet a defined cost threshold.

RATIONALE 8 - 1 AND 8 - 2

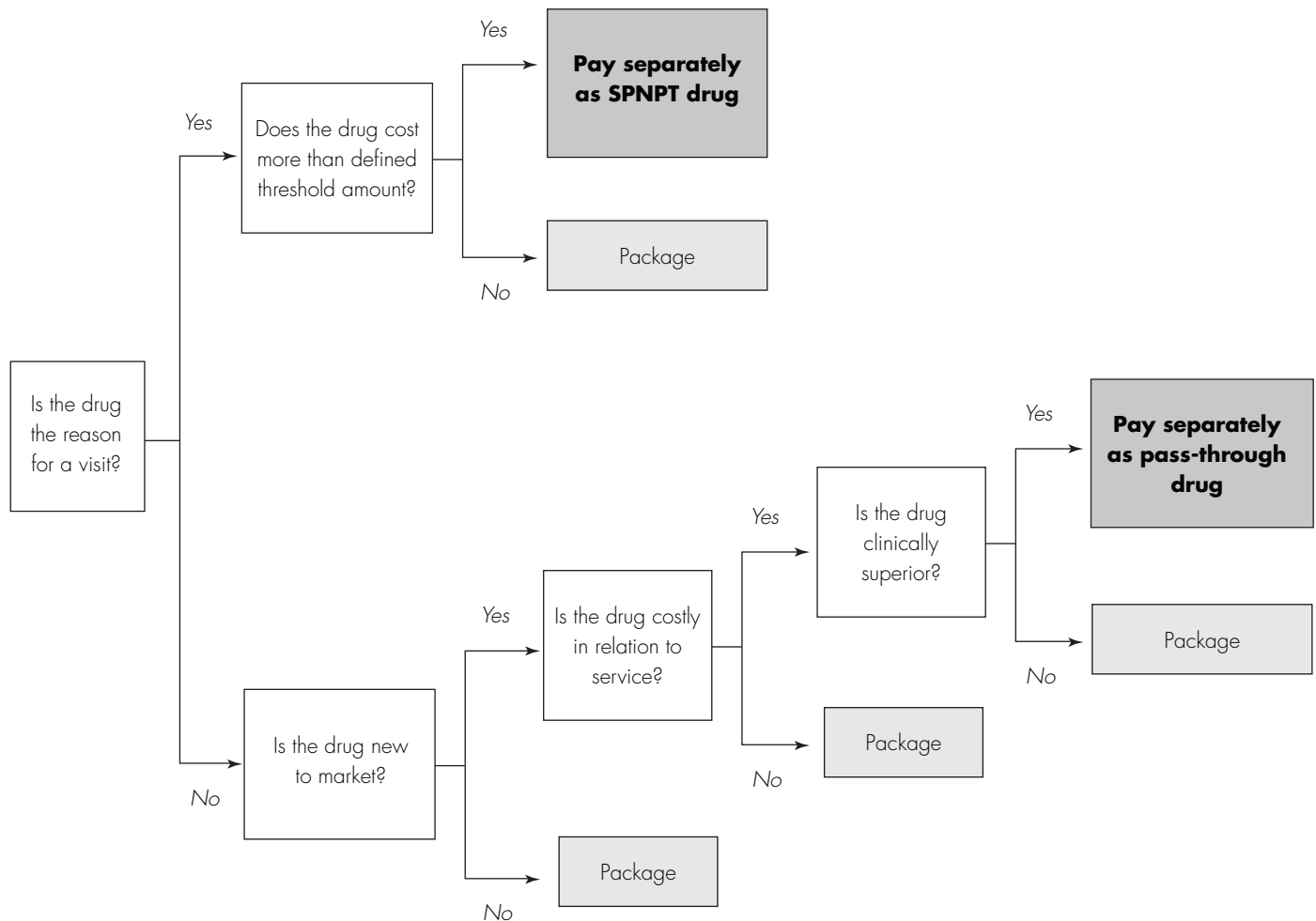
The important effects of these recommendations include the following:

- The clinical superiority requirement in the pass-through policy would raise the bar for drugs to qualify for separate payments under the OPPTS beyond simply meeting the pass-through cost criteria. Drug manufacturers would have an incentive to devote resources to developing drugs that offer better clinical performance than existing drugs.
- Drugs that are the reason for a visit would be excluded from the pass-through policy, and most of them would be separately payable under the SPNPT policy (if they exceeded the cost per day threshold). This change in payment status for new drugs that are the reason for a visit would mitigate the effects of the OPPTS pricing difference between pass-through drugs and SPNPT drugs.
- Each year, the number of pass-through drugs would be substantially lower than the number that currently qualify for pass-through status because pass-through status would exclude drugs that are the reason for a visit and would require clinical superiority over similar drugs.
- In the first year of implementing the proposed policy, the number of SPNPT drugs would increase because many pass-through drugs that are the reason for a visit would be moved to the SPNPT category.
- The number of packaged drugs would increase. The requirement that new products that function as a supply must show clinical superiority to be given pass-through status would decrease the number of pass-through drugs.

Though this shift of drugs from pass-through status to either SPNPT status or packaged status would change the OPPTS payment rates for these drugs, initially there would be no effect on Medicare spending. Most drugs no longer eligible for pass-through status would be eligible for SPNPT status instead. OPPTS payments for these drugs would change from ASP + 6 percent under the pass-through policy to either ASP + 6 percent or ASP – 22.5 percent, depending on whether the drug is obtained through the 340B program. This change in payment rates would affect OPPTS drug spending, but any decrease in OPPTS drug spending would trigger a proportional increase in the payment rates of other OPPTS services to maintain

**FIGURE
8-2**

**Decision criteria under the Commission's recommended changes
to separately payable drug policies in the OPPTS**



Note: OPPTS (outpatient prospective payment system), SPNPT (separately payable non-pass-through).

Source: MedPAC analysis.

statutorily mandated budget neutrality. The movement of some pass-through drugs to packaged status because they do not meet the clinical superiority requirement also would have no effect on Medicare spending because of the budget-neutrality requirement.

Over the longer term, however, Medicare spending would likely be affected. Providers would likely change their drug choices as drug payment rates changed, generally from pass-through drugs that currently have payment rates

set at ASP + 6 percent to SPNPT drugs that have payment rates set at ASP – 22.5 percent. These changes in drug choices would reduce Medicare program spending. In addition, adding a clinical superiority requirement to the pass-through policy would likely mitigate the inflationary pressure on drug prices. A clinical superiority requirement would give drug manufacturers greater incentive to develop more efficacious drugs, and less incentive to develop drugs that can qualify for the pass-through policy simply based on cost.

Although the recommendations would result in an improved system of drug payment in the OPPTS, an important issue not addressed is setting payment rates for biosimilars. The policy for setting payment rates for a brand-name drug and its generic competitors differs from the policy for setting payment rates for a reference biologic and its biosimilar competitors. The generic drug policy has helped slow the rate of Medicare spending on drugs. Under that policy, a new generic drug and its related brand-name drug are assigned to the same billing code—a consolidated billing code—and have the same payment rate. Because of the single billing code and the low research and development costs for generic drugs, Medicare payment rates for drugs that become generic generally decline substantially over time (Medicare Payment Advisory Commission 2010). In contrast, under current policy, a new biosimilar is assigned a billing code that is separate from the billing code for the reference biologic, which does not maximize price competition between the reference biologic and the biosimilar because the payment rates for the biosimilar and the reference biologic are based on their respective ASPs.

The current policy of assigning the biosimilar and its reference biologic to different billing codes conflicts with the Commission's fundamental payment principle that Medicare should pay similar rates for similar care. The Commission has addressed this issue by recommending that the Congress require the Secretary to use a common billing code to pay for a reference biologic and its biosimilars (Medicare Payment Advisory Commission 2017). A key issue for implementing a common billing code for a reference biologic and its biosimilars is how CMS would set a single payment rate for the billing code. The Commission suggested CMS could base the payment rate according to the volume-weighted ASP of the products assigned to the code. CMS currently uses such an approach when determining the payment rate for a brand drug and its associated generic drugs. However, other options could be used, such as basing payment on the lowest ASP among the products in the same billing code.

Spending

- The Congressional Budget Office (CBO) estimates these recommendations will have no effect on Medicare spending over a one-year or five-year period. CBO's estimate reflects a mandated budget-neutrality requirement in the OPPTS. Under the recommendations, we expect Medicare spending on drugs covered under the OPPTS would decline. However, under statute, CMS would be required to adjust the OPPTS payment rates for all services to fully offset any change in spending for drugs.
- Although difficult to quantify, Medicare spending would decline to the extent that these recommendations affect providers' choice of drugs furnished to beneficiaries. These recommendations would mitigate current financial incentives for 340B providers to choose pass-through drugs over clinically similar SPNPT drugs because current policies tend to produce higher payment rates for pass-through drugs relative to SPNPT drugs. These changes in drug choices would not be accounted for in CMS's budget-neutrality adjustments to the OPPTS but rather would reduce Medicare program spending. In addition, we expect that adding a clinical superiority requirement to the pass-through policy would likely reduce the inflationary pressure on drug prices in the long term.

Beneficiary and provider

- We do not expect these recommendations to have adverse effects on beneficiaries' access to drugs needed for effective treatment. Mitigating financial incentives for 340B providers to choose certain drugs may affect choices within categories of similar drugs. We do not expect the recommendations to affect providers' willingness or ability to care for Medicare beneficiaries. ■

Endnotes

- 1 Under the IPPS, there is some opportunity for hospitals to unbundle some ancillary items. For example, if an expensive drug is provided in an outpatient department to an inpatient on the day of discharge, the drug is paid separately from the inpatient stay.
- 2 Although separate payment for some drugs is reasonable under the current structure of the OPSS, future policies that would encourage more price competition among drugs, such as reference pricing or consolidated billing, are not precluded by this discussion. It is not inconsistent with the current structure of the OPSS to classify drugs into the larger payment categories required by reference pricing or consolidated billing. Indeed, doing so would make drug payment more consistent with OPSS payment for services, under which services are classified into somewhat broad payment categories (ambulatory payment classifications).
- 3 The Congress defined new drugs as those for which payment was not made as of December 31, 1996, because payment rates for the initial OPSS were based on data from 1996. In a practical sense, this requirement means drugs are considered new if no payment is made during the period for which CMS is using data to determine OPSS payment rates. For example, CMS used data from 2019 to determine OPSS payment rates for 2021. If a drug was introduced to the market in 2020, it would be considered new to the market.
- 4 APCs are the OPSS analog to diagnosis related groups used in the inpatient prospective payment system. CMS classifies services into APCs based on clinical and cost similarity. That is, CMS attempts to create APCs that have services that have similar costs and similar clinical purposes. All services in the same APC have the same OPSS payment rate.
- 5 For five years (2013 through 2017), CMS set OPSS payment rates for SPNPT drugs at ASP + 6 percent, irrespective of whether they were obtained through the 340B program.
- 6 The 6 percent add-on to ASP has received attention because of concern that it may create incentives for use of higher priced drugs when lower priced alternatives exist. Since 6 percent of a higher priced drug generates more revenue for providers than 6 percent of a lower priced drug, selection of the higher priced drug may generate more profit, depending on the provider's acquisition cost for the two drugs. Policymakers could use a number of approaches to address potential adverse incentives associated with the 6 percent add-on, including a lower percentage add-on (as the Commission recommended in 2017) or replacing the 6 percent add on with a flat dollar add-on or a combination of a flat dollar add-on and a lower percentage add-on (Medicare Payment Advisory Commission 2017, Medicare Payment Advisory Commission 2016, Medicare Payment Advisory Commission 2015).
- 7 Policymakers could separately reassess the level of the cost threshold in conjunction with the revised SPNPT policy.

References

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019a. Application for new medical technologies and technologies seeking to qualify for add-on payments under the hospital inpatient prospective payment system for the federal fiscal year (FY) 2021. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/newtech>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019b. Medicare program: Changes to hospital outpatient prospective payment and ambulatory surgical center payment systems and quality reporting programs; revisions of organ procurement organizations conditions of coverage; prior authorization process and requirements for certain covered outpatient department services; potential changes to the laboratory date of service policy; changes to grandfathered children's hospitals-within-hospitals; notice of closure of two teaching hospitals and opportunity to apply for available slots. Final rule. *Federal Register* 84, no. 218 (November 12): 61142–61492.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2014. Process and information required to determine eligibility of drugs, biologicals, and radiopharmaceuticals for transitional pass-through status under the hospital outpatient prospective payment system (OPPS). <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalOutpatientPPS/Downloads/drugapplication.pdf>.

Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2017. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2016. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2015. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2010. *Report to the Congress: Aligning incentives in Medicare*. Washington, DC: MedPAC.

C H A P T E R

9

**Mandated report: Assessing
the impact of recent changes to
Medicare's clinical laboratory
fee schedule payment rates**

Mandated report: Assessing the impact of recent changes to Medicare's clinical laboratory fee schedule payment rates

Chapter summary

Before 2018, Medicare's clinical laboratory fee schedule (CLFS) payment rates were set based on local, historical charges and capped at certain amounts. CLFS payment rates were not always adjusted to reflect laboratories' improvements in efficiency, changes in technology, or market conditions over time. For example, CMS did not adjust payment rates for the fact that performing some laboratory tests had become faster and less expensive over time as automation reduced the need for manual interactions with laboratory technicians (Centers for Medicare & Medicaid Services 2016b). Because of how CLFS payment rates were set and updated over time, Medicare paid more for laboratory tests than other payers, with one estimate suggesting that Medicare paid between 18 percent and 30 percent more per test than other payers for 20 high-volume or high-expenditure laboratory tests.

In response to evidence of overpayments, the Protecting Access to Medicare Act of 2014 required CMS to establish CLFS payment rates based on the rates private payers paid for laboratory tests. Laboratories that meet certain requirements, such as receiving a minimum level of payments under the CLFS, are required to report their private-payer rates to CMS. After laboratories report their data, CMS sets the CLFS payment rate for each laboratory test at the volume-weighted median of all reported private-payer rates. These payment rates are not subject to any adjustments (e.g., geographic adjustments) or annual updates; they are updated only when CMS collects

In this chapter

- Independent laboratories were overrepresented in the first round of data reporting
- Implementing private payer-based rates substantially lowered CLFS rates, but rates for some tests increased
- Use of CLFS tests has been stable under new payment rates, but spending increased
- Sampling laboratories could produce accurate rates with less burden on laboratories
- Basing CLFS rates on a representative sample of laboratories would increase spending
- Basing CLFS rates on a representative sample of private-payer rates may be undesirable in certain circumstances

another round of private-payer data. The first round of data reporting occurred in 2017, and CMS used those data to set CLFS payment rates beginning in 2018. The second round of data reporting was originally scheduled to take place in 2020. However, in the Further Consolidations Appropriations Act, 2020, the Congress delayed the second round of data reporting, which is now scheduled for 2022. As part of that legislation, the Congress also mandated the Commission to examine the methodology CMS used to set private payer–based CLFS payment rates and to report on the least burdensome data collection process that would result in a representative and statistically valid data sample of private market rates from all laboratory market segments, including independent, hospital, and physician-office laboratories.

In the first round of data reporting, CMS received private-payer data from laboratories that accounted for 51 percent of Medicare CLFS spending in 2016. However, reporting was not consistent across different types of laboratories. Independent laboratories were overrepresented in the data, and hospital outpatient and physician-office laboratories were underrepresented. Representatives of the laboratory industry have claimed that, compared with independent laboratories, hospital outpatient and physician-office laboratories receive higher private-payer rates, and thus their underrepresentation in the first round of data reporting artificially lowered Medicare’s payment rates, which could create disruptions in access to laboratory tests.

The Commission's analysis found that using private-payer data substantially lowered Medicare payment rates for CLFS tests. We project that, relative to average 2017 rates, CLFS payment rates will decrease by an average of 24 percent once the private payer–based rates are fully phased in by 2025. However, we found that payment rate changes were not uniform across types of laboratory tests. The transition to private payer–based rates resulted in much larger payment reductions for low-cost, routine tests than for newer, more expensive tests. In fact, the transition to private payer–based rates led to rate increases for some tests, particularly for those that are newer and more expensive.

We found that overall utilization of CLFS laboratory tests remained relatively flat after CMS implemented private payer–based rates, suggesting stable access to CLFS laboratory tests among Medicare fee-for-service beneficiaries. In contrast to relatively flat utilization rates, aggregate Medicare CLFS spending increased after CMS implemented private payer–based rates. This spending increase was predominantly driven by newer, high-cost tests, such as genetic tests. While the field of genetic testing is still nascent and changing rapidly, the lower average payment

rate reductions (or payment rate increases) among such tests and their associated high rates of spending growth in recent years suggest that relying on private-payer rates alone will not control Medicare spending growth on these tests in the future.

The Commission worked with a third-party contractor, RTI International (RTI), to examine survey methodologies that could be used to collect private-payer data from a representative and statistically valid sample of laboratories. RTI found that collecting private-payer data using a survey could produce accurate estimates of payment rates for independent, hospital, and physician-office laboratories and reduce the number of laboratories that would be required to report private-payer data by up to 70 percent. However, this analysis should be considered a proof of concept; further analysis would be needed to more fully explore this alternative to CMS's current rate-setting process. CMS may also require additional legislative authority to implement such a data collection process.

The Commission also examined the extent to which collecting data from a representative sample of independent, hospital, and physician-office laboratories would affect Medicare's CLFS spending by analyzing how hospital outpatient and physician-office laboratories' private-payer rates compared with those received by independent laboratories. Based on data reported to CMS, we found that, for the 100 Medicare CLFS tests with the highest spending in 2016, hospital outpatient and physician-office laboratories received private-payer rates that were, on average, 45 percent and 53 percent higher, respectively, than independent laboratories. Because of these substantially higher private-payer rates, full representation of hospital outpatient and physician-office laboratories in the first round of data reporting would have resulted in higher Medicare CLFS spending, although the magnitude of the increase would depend on assumptions made about the distribution of types of laboratories and the rates these laboratories were paid by private payers.

The Commission maintains that Medicare should set payment rates at a level that ensures beneficiary access to high-quality laboratory tests, while also providing incentives for laboratories to furnish care efficiently in order to make good use of taxpayers' and beneficiaries' resources. To do that, Medicare should ensure that payment rates are sufficient to cover the costs of relatively efficient laboratories but should not increase rates solely to accommodate laboratories that receive high private-payer rates. In setting CLFS payment rates, incorporating private-payer data from a representative sample of all types of laboratories would be imprudent for routine laboratory tests where higher private-payer rates likely reflect provider negotiating leverage rather than the costs of furnishing the tests.

For most routine tests, policymakers should consider setting laboratory payment rates based on private-payer data from certain types of laboratories (e.g., independent laboratories) while excluding the data from others (e.g., hospital outpatient laboratories). Through the first two years of setting Medicare rates based on private-payer data, lower Medicare payments appear to have had little impact on the use of routine laboratory tests among Medicare fee-for-service beneficiaries, suggesting that access to services can be maintained with lower rates. However, if access issues did arise, policymakers could consider implementing targeted payment adjustments instead of incorporating private-payer data from all laboratories that receive high private-payer rates. Targeted payment adjustments could help ensure access in particular circumstances without overpaying for all laboratory tests.

The Commission's analyses also suggest that using private-payer data to set Medicare payment rates for many new, high-cost tests is problematic. Determining appropriate payment rates for such laboratory tests may be challenging for private payers. Indeed, our analyses suggest that private payers may not be able to negotiate lower prices for such tests in the same manner as they do for more routine tests. In the future, the Commission will explore ways to improve how Medicare sets prices for new high-cost technologies, including certain pharmaceuticals, devices, and laboratory tests. ■

Statutory mandate: Public Law 116–94

(b) STUDY AND REPORT BY MEDPAC.

(1) **IN GENERAL.**—The Medicare Payment Advisory Commission (in this subsection referred to as the “Commission”) shall conduct a study to review the methodology the Administrator of the Centers for Medicare & Medicaid Services has implemented for the private payor rate-based clinical laboratory fee schedule under the Medicare program under title XVIII of the Social Security Act (42 U.S.C. 1395 et seq.).

(2) **SCOPE OF STUDY.**—In carrying out the study described in paragraph (1), the Commission shall consider the following:

(A) How best to implement the least burdensome data collection process required under section 1834A(a)(1) of such Act (42 U.S.C. 1395m–1(a)(1)) that would—

(i) result in a representative and statistically valid data sample of private market rates from all laboratory market segments, including hospital

outreach laboratories, physician-office laboratories, and independent laboratories; and

(ii) consider the variability of private payor payment rates across market segments.

(B) Appropriate statistical methods for estimating rates that are representative of the market.

(3) **REPORT TO CONGRESS.**—Not later than 18 months after the date of the enactment of this Act, the Commission shall submit to the Administrator, the Committee on Finance of the Senate, and the Committees on Ways and Means and Energy and Commerce of the House of Representatives a report that includes—

(A) conclusions about the methodology described in paragraph (1); and

(B) any recommendations the Commission deems appropriate. ■

Background

In the Further Consolidated Appropriations Act, 2020, the Congress mandated that the Commission examine the methodology CMS uses to set private payer-based rates for laboratory tests paid under Medicare’s clinical laboratory fee schedule (CLFS). The mandate requires the Commission to report, by June 2021, on the least burdensome data collection process that would result in a representative and statistically valid data sample of private market rates from all laboratory market segments (see text box for mandate).

In this report, we describe Medicare’s laboratory payment system that was in effect through 2017 and describe the effects—on Medicare payment rates, spending, and utilization of laboratory tests—associated with setting Medicare’s payment rates using information from private payers, which began in 2018. We also examine

the methods by which CMS could collect representative private-payer data using a survey and discuss the potential consequences for Medicare spending.

Medicare’s clinical laboratory fee schedule

Clinical laboratory tests analyze specimens from the body (e.g., blood or urine) to diagnose health conditions and help guide treatments. Clinical laboratory tests are valuable tools that help accurately diagnose and treat patients. Under Part B, Medicare covers medically reasonable and necessary laboratory tests that are ordered by a physician or a qualified nonphysician practitioner when they are provided in a laboratory that is certified by CMS under the Clinical Laboratory Improvement Amendments (CLIA).¹

Laboratory tests are furnished in a variety of settings, and Medicare’s payment mechanisms vary based on setting. In institutional settings, Medicare often bundles the

payment for laboratory tests together with other services provided to beneficiaries. For example, laboratory tests are generally bundled when provided as part of an inpatient hospital stay, an outpatient hospital service, or a skilled nursing facility stay. In addition, Medicare generally pays for laboratory tests that involve the work of a physician (e.g., anatomic pathology services) under the physician fee schedule. For laboratory tests that are not bundled or paid under the physician fee schedule, Medicare predominantly pays for tests under the CLFS.² (Unless explicitly noted otherwise, the rest of this report applies only to laboratory tests paid under the CLFS.)

The CLFS contains a heterogeneous mix of tests. Some tests are relatively routine and are provided by a wide variety of laboratories. These tests include organ- or disease-oriented panel tests, such as comprehensive metabolic panels (Healthcare Common Procedure Coding System (HCPCS) code 80053); chemistry tests, such as an assay of the thyroid-stimulating hormone (HCPCS code 84443); and hematology and coagulation tests, such as complete blood counts (HCPCS code 85025). Other tests are low-volume, complex tests that are often furnished by relatively few laboratories. This group includes molecular pathology tests, such as a test that analyzes a beneficiary's predisposition to hereditary breast and ovarian cancers (HCPCS code 81162); multianalyte assays with algorithmic analyses, such as a test to detect colorectal cancers (HCPCS code 81528); and proprietary laboratory analyses, such as a genomic profiling assay for solid tumors (HCPCS code 0037U).

In 2019, Medicare spent over \$7.5 billion on 428 million Medicare CLFS laboratory tests. These tests were almost entirely furnished by three types of laboratories— independent laboratories, hospital outpatient laboratories, and physician-office laboratories. Policymakers and researchers often subdivide the hospital outpatient laboratory category into two groups—outreach and non-outreach laboratories. Hospital outreach laboratories are those that furnish laboratory tests for patients who are not admitted hospital inpatients or registered hospital outpatients—in essence, they serve as community laboratories. In 2019, independent laboratories billed for just under half of all CLFS tests (49 percent), while physician-office laboratories billed for 22 percent, hospital (non-outreach) laboratories billed for 18 percent, hospital outreach laboratories billed for 11 percent, and other laboratory types billed for 1 percent (Table 9-1).

Until recently, Medicare's CLFS payment rates were based on historical charges and likely were excessive

Before 2018, Medicare's CLFS payment rates were set based on local, historical laboratory charges and capped at certain amounts. Each Medicare claims processing contractor established its own fee schedule based on local laboratory charges in 1984 and 1985, resulting in 57 different fee schedules that were collectively known as the CLFS.

Beginning in 1986, the Congress established national limits on the local fee schedule rates, called national limitation amounts.³ Medicare's payment rates for laboratory tests were also capped based on a laboratory's charges. The result was that Medicare's actual payment for a laboratory test was the lesser of the laboratory's charges, the local fee schedule amount, or the national limitation amount. Because laboratories' charges and local fee schedule amounts generally exceeded national limitation amounts, most (but not all) laboratory tests were paid based on national limitation amounts.⁴

For new laboratory tests, CMS established payment rates by one of two methods—crosswalking or gapfilling. CMS used the crosswalking method when a new test was comparable in terms of test methods and resources with an existing test. For crosswalked codes, CMS set payment rates using the rate for an existing test (or tests). If no comparable test existed, CMS used the gapfilling methodology, under which Medicare claims processing contractors set payment rates in their jurisdiction based on information such as laboratory charges, resources required to perform the test, and other payers' payment rates.⁵ CMS then used these local payment rates to establish a national limitation amount.

CLFS payment rates were updated annually. Updates were generally based on the consumer price index for all urban consumers (CPI-U), CPI-U minus a certain amount (e.g., 0.5 percentage point) or were set directly by the Congress. For example, the Affordable Care Act of 2010 set CLFS payment rate updates at CPI-U minus a multifactor productivity update and directed CLFS payment rates to be reduced by 1.75 percent per year from 2011 to 2015.

CLFS payment rates were not adjusted to reflect laboratories' improvements in efficiency, changes in technology, or market conditions. For example, CMS did

**TABLE
9-1**

Independent laboratories billed for about half of CLFS tests, 2019

		Definition	Share of:	
			Medicare CLFS volume 2019	Medicare CLFS spending 2019
Independent		Perform tests independent of an institution or physician's office. Comprise a wide variety of laboratories, including large national laboratories (e.g., LabCorp and Quest), regional laboratories, and laboratories that specialize in genetic testing.	49%	63%
Physician office		Maintained by a physician or group of physicians performing diagnostic tests in connection with the physician practice.	22	16
Hospital outpatient	Non-outreach	Furnish laboratory tests only for hospital inpatients and registered hospital outpatients.	18	13
	Outreach	Furnish laboratory tests for patients who are not admitted hospital inpatients or registered hospital outpatients.	11	8
Other		Located in other settings such as nursing facilities or end-stage renal disease facilities.	1	1

Note: CLFS (clinical laboratory fee schedule). Numbers do not sum to 100 due to rounding. Table includes tests paid under Medicare's CLFS and excludes other tests, such as those bundled into the payment for hospital inpatient and outpatient services and those paid on a cost basis through critical access hospitals. Laboratory type is based on the place of service in the carrier file and the type of bill in the outpatient file. Hospital outreach laboratories are identified using type of bill 14x; hospital (non-outreach) laboratories are identified using bill types 12x and 13x.

Source: MedPAC summary of CMS regulations and Acumen LLC analysis of Medicare CLFS claims for MedPAC.

not adjust payment rates for the fact that performing some laboratory tests had become faster and less expensive over time because automation reduced the need for manual interactions with laboratory technicians.

Research suggested that Medicare's payment rates were excessive because of how CLFS payment rates were set and updated over time. A 2013 report from the Health and Human Services Office of Inspector General (OIG) found that Medicare paid between 18 percent and 30 percent more than other insurers for 20 high-volume or high-expenditure laboratory tests (Office of Inspector General 2013).

Beginning in 2018, Medicare's CLFS payment rates are based on private-payer data

The Protecting Access to Medicare Act of 2014 (PAMA) required CMS to shift the basis for CLFS payment rates from historical laboratory charges to current private-payer rates. This shift was expected to save the Medicare

program \$2.5 billion over 10 years because Medicare's laboratory payment rates generally exceeded private-payer rates at the time (Congressional Budget Office 2014). Despite this expected reduction, representatives of the laboratory industry supported the shift to private payer-based rates outlined in PAMA (American Clinical Laboratory Association 2014). In their view, the legislation provided predictable reimbursements and would allow the laboratory industry to avoid further across-the-board cuts.⁶

Process of establishing private payer-based CLFS rates

PAMA requires laboratories to report the payment rates they receive from private payers so that CMS can establish the new CLFS rates. Laboratories must report their private-payer rates for claims paid during a six-month period, referred to as the "data collection period." Laboratories then have six months to review and analyze their private-payer data. Following the review period, laboratories have

Setting payment rates for advanced diagnostic laboratory tests

In addition to changing the way Medicare sets payment rates for laboratory tests, the Protecting Access to Medicare Act of 2014 also established a new subcategory of laboratory tests, referred to as “advanced diagnostic laboratory tests” (ADLTs). An ADLT is a clinical diagnostic laboratory test covered under Medicare Part B that is offered and furnished only by a single laboratory and meets one of the following two criteria:

Criterion A—The test:

- is an analysis of multiple biomarkers of DNA, RNA, or proteins;
- when combined with an empirically derived algorithm, yields a result that predicts the probability a specific individual patient will develop a certain condition or conditions, or will respond to a particular therapy or therapies;
- provides new clinical diagnostic information that cannot be obtained from any other test or combination of tests; and
- may include other assays.

Criterion B—The test is cleared or approved by the Food and Drug Administration.

ADLTs have separate reporting and payment requirements from other laboratory tests. Medicare’s payment rate for a new ADLT is equal to the product’s actual list charge for three calendar quarters.⁷ After this period, the payment rate for an ADLT is set at the weighted median of private-payer rates, but unlike the payment rates for other laboratory tests, CMS collects new private-payer data and establishes a new payment rate for ADLTs every year instead of every three years (Centers for Medicare & Medicaid Services 2018).

As of January 2021, CMS has approved nine ADLTs. Medicare’s payment rates for these tests during the new ADLT period range from \$1,950 to \$7,193 (Table 9-2) (Centers for Medicare & Medicaid Services 2021). ■

(continued next page)

three months to report the data to CMS, referred to as the “data reporting period.” CLFS payment rates are based on the reported data in the next calendar year. CMS used the following schedule to establish private payer–based rates:

- January through June 2016—data collection period
- July through December 2016—laboratory review of private-payer data
- January through March 2017—data reporting period
- In January 2018—CMS began paying for CLFS tests using the new private payer–based rates

PAMA requires laboratories to report their private-payer rates every three years so CMS can periodically recalculate CLFS rates. The Congress has delayed the second round of data reporting, so data from the first data

collection period (January through June 2016) will be used to set CLFS rates until January 1, 2023. (The rate-setting process described in this section applies to laboratory tests that are not considered advanced diagnostic laboratory tests. See text box for more information on how Medicare sets payment rates for advanced diagnostic laboratory tests.)

Not all laboratories are required to report their private-payer rates to CMS. Instead, PAMA mandated that only “applicable laboratories” report. For the first data reporting period, CMS defined an applicable laboratory as one that:

- is certified under the Clinical Laboratory Improvement Amendments,
- bills Medicare under its own national provider identifier (NPI),

Setting payment rates for advanced diagnostic laboratory tests (cont.)

**TABLE
9-2**

CMS has approved nine ADLTs as of January 2021

HCPCS code	Laboratory name	Test name	Approval date	New ADLT period	Medicare payment amount during new ADLT period
0239U	Foundation Medicine	FoundationOne Liquid CDx	1/25/2021	4/1/21 to 12/31/21	\$3,500
81554	Veracyte	Envisia Genomic Classifier	9/17/2020	10/1/20 to 6/30/21	\$5,500
0172U	Myriad	myChoice CDx	12/11/2019	1/1/20 to 9/30/20	\$4,040
0090U	Myriad	myPath Melanoma	9/6/2019	10/1/19 to 6/30/20	\$1,950
0080U	Biodesix	BDX-XL2	5/17/2019	7/1/19 to 3/31/20	\$3,520
81529	Castle Biosciences	DecisionDx-Melanoma	5/17/2019	7/1/19 to 3/31/20	\$7,193
81552	Castle Biosciences	DecisionDx-UM	5/17/2019	N/A	N/A
81538	Biodesix	Veristrat	12/21/2018	N/A	N/A
0037U	Foundation Medicine	FoundationOne CDx	05/18/2018	7/1/18 to 3/31/19	\$3,500

Note: ADLT (advanced diagnostic laboratory test), HCPCS (Healthcare Common Procedure Coding System), N/A (not applicable). HCPCS codes 81552 and 81538 were existing ADLTs.

Source: CMS.

- meets the “majority of Medicare revenues” threshold, and
- meets the low-expenditure threshold.

To meet the majority of Medicare revenues threshold, a laboratory must receive more than 50 percent of its total Medicare payments from the CLFS or the physician fee schedule. To calculate the share of Medicare revenues that comes from the CLFS or physician fee schedule, a laboratory (defined at the NPI level) sums all the payments it received from those two payment systems and divides that figure by its total Medicare revenues. For the first data reporting period, total Medicare revenues included all fee-for-service (FFS) payments under Medicare Part A and Part B, prescription drug payments under Part D, Medicare Advantage payments under Part C, and any associated beneficiary deductibles or coinsurance.

PAMA gave CMS the authority to establish a low-expenditure threshold, which CMS set at \$12,500.⁸ If a laboratory receives less than \$12,500 in CLFS payments during the data reporting period (e.g., January through June 2016), it is exempted from reporting its private-payer rates to CMS. CMS estimated that the low-expenditure threshold would exempt about 95 percent of physician-office laboratories and 55 percent of independent laboratories from reporting. However, even after excluding those laboratories, CMS estimated that the agency would still collect data associated with 92 percent of CLFS spending for physician-office laboratories and 99 percent of CLFS spending associated with independent laboratories (Centers for Medicare & Medicaid Services 2016b). Thus, CMS’s goal was to reduce the administrative burden on many small laboratories,

particularly physician-office laboratories, while still collecting sufficient data to set payment rates.

Laboratories not exempt from reporting must report “applicable information” to CMS, which consists of:

- the HCPCS code associated with each test the laboratory performed,
- the private-payer rate for each test for which final payment was made during the data collection period,⁹ and
- the associated private-payer volume for each test.

Private-payer rates include the final amount paid for laboratory tests after all discounts, rebates, coupons, and other price concessions are applied. Private-payer rates include payments from secondary payers and any patient cost sharing. In general, laboratories should not report information in situations where payments cannot be directly attributed to a specific laboratory test. For example, payments made on a capitated, bundled, or encounter basis are generally excluded from reporting.

After laboratories report their data, CMS sets the CLFS payment rate for each laboratory test at the volume-weighted median of all reported private-payer rates.¹⁰ PAMA required CMS to set rates using a weighted median instead of other measures of central tendency (e.g., geometric mean). The use of medians limits the effect of outlier values on CLFS rates, and weighting based on volume means that high-volume laboratories substantially influence CLFS rates.

PAMA stipulated that private payer-based CLFS payment rates are not subject to any adjustments, including geographic adjustments, budget-neutrality adjustments, or annual updates. The payment rates are updated only when CMS collects another round of private-payer data.

Before PAMA was enacted, Medicare’s payment rates substantially exceeded private-payer rates for many laboratory tests, and consequently, transitioning to private payer-based rates was expected to result in large payment rate reductions. Therefore, PAMA established a long phase-in of payment reductions to mitigate the impact on laboratories and allow them time to adjust their operations. CLFS payment rates can decrease by no more than 10 percent per year for the first three years under the new payment system and no more than 15 percent per year in the next three years. Because of a one-year delay

implementing the new payment system and legislation that eliminated all reductions in 2021, payment rate reductions resulting from private payer-based rates are not expected to be fully phased in until 2025. In contrast, payment rate increases resulting from private payer-based rates were fully implemented in 2018 (Figure 9-1).

Independent laboratories were overrepresented in the first round of data reporting

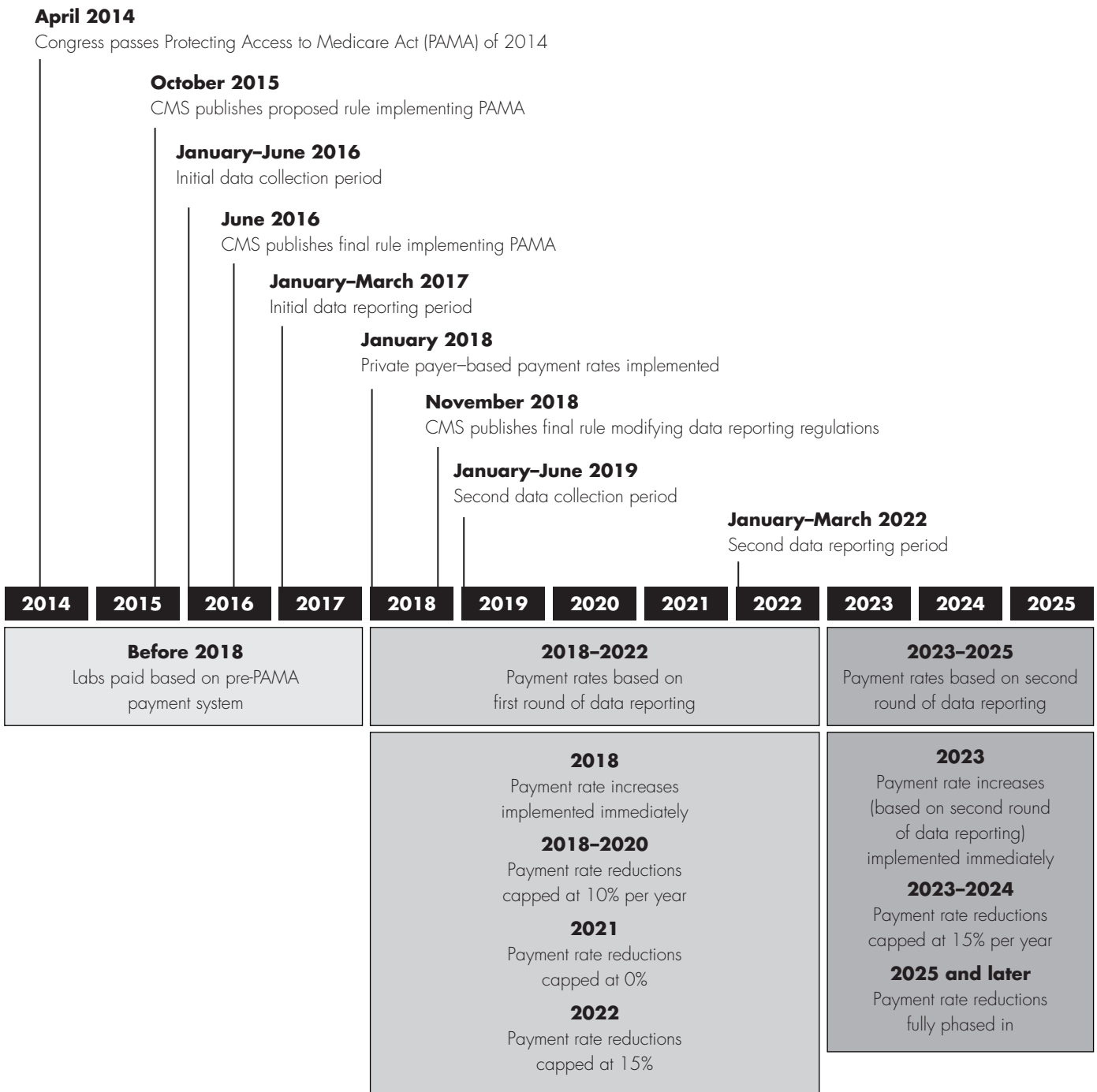
In the first round of data reporting, CMS collected private-payer data from laboratories that accounted for 51 percent of total Medicare CLFS spending in 2016.¹¹ However, reporting was not consistent across types of laboratories. Medicare paid independent laboratories \$3.8 billion for CLFS laboratory tests in 2016, and CMS received private-payer data from independent laboratories that accounted for \$3.2 billion in CLFS spending in the same year, meaning that CMS received data from laboratories that accounted for 85 percent of independent laboratory spending (Table 9-3, p. 308). In contrast, CMS received private-payer data from laboratories that accounted for 19 percent and 3 percent of Medicare CLFS spending among physician-office and hospital outpatient laboratories, respectively.

Hospital outpatient and physician-office laboratories were underrepresented in the first round of data reporting for several reasons. First, many physician-office laboratories furnish a relatively low volume of CLFS tests; these laboratories would not have met the low-expenditure threshold. Indeed, CMS established the low-expenditure threshold for the explicit purpose of relieving small laboratories from the administrative burden of data reporting, which industry representatives have noted was substantial.

Second, while some hospital outpatient laboratories also may not have met the low-expenditure threshold, more hospital outpatient laboratories likely did not report private-payer data because they did not meet the majority of Medicare revenues threshold (i.e., the requirement that a laboratory receive more than 50 percent of its total Medicare payments from the CLFS or the physician fee schedule). For example, a hospital outpatient laboratory billing under its parent hospital’s NPI likely would have revenues associated with inpatient and outpatient hospital

**FIGURE
9-1**

Time line of CMS's implementation of private payer-based CLFS payment rates



Note: CLFS (clinical laboratory fee schedule). While the initial data reporting period was January through March of 2017, CMS announced that it accepted data, without penalty, until May 30. CMS delayed the implementation of private payer-based rates from 2017 to 2018. The Further Consolidated Appropriations Act, 2020, delayed the second round of data reporting from 2020 to 2021. The Coronavirus Aid, Relief, and Economic Security Act of 2020 capped payment rate reductions at 0 percent in 2021, shifted the 15 percent per year cap on payment rate reductions from 2021 to 2023 to 2022 to 2024, and delayed the second round of data reporting from 2021 to 2022. While the data reporting period has been delayed until 2022, the data collection period for the second round of reporting has not changed, meaning laboratories will report private-payer rates based on claims from January 2019 through June 2019 during the 2022 data reporting period.

Source: MedPAC analysis of CMS regulations.

**TABLE
9-3**

CMS collected data from laboratories that accounted for about half of Medicare FFS CLFS spending in 2016, but reporting was inconsistent across different types of laboratories

Type of laboratory	Medicare FFS CLFS spending by laboratory type, 2016 (in millions)	Medicare FFS CLFS spending among laboratories that reported private-payer data to CMS, 2016 (in millions)	Share of Medicare FFS CLFS spending accounted for by laboratories that reported private-payer data to CMS
Independent	\$3,762	\$3,179	85%
Physician office	1,248	238	19
Hospital outpatient	1,741	45	3
Other	36	<1	1
Total	6,786	3,462	51

Note: FFS (fee-for-service), CLFS (clinical laboratory fee schedule). Components may not sum to totals because of rounding.

Source: MedPAC analysis of CLFS claims and private-payer data from CMS.

services that far outweigh revenues from the CLFS and physician fee schedule. Industry representatives have said that hospital outpatient laboratories commonly bill Medicare under their parent hospital's NPI.

Other issues may have caused additional underreporting. Laboratories that furnished a high share of tests to Medicare Advantage beneficiaries may have been excluded for technical reasons (see text box on CMS changes to increase the number of laboratories required to report data). Other laboratories may have not adequately complied with the law. Laboratories determine whether they are required to report their private-payer rates; CMS does not make this determination.¹² CMS has said that it does not have sufficient data to determine which laboratories are required to report (Office of Inspector General 2018). Nevertheless, some laboratories that were required to report likely did not do so.¹³ For example, OIG identified 20 high-volume independent laboratories that likely were required to report but did not do so (Office of Inspector General 2018). PAMA gave CMS the authority to levy civil monetary penalties on laboratories for failure to report their private-payer data. However, to date, CMS has not exercised that authority.

For the second round of data reporting, CMS has made changes designed to address a few of these issues and increase the number of laboratories that are required to

report private-payer data (see text box on CMS changes to increase the number of laboratories required to report data).

Representatives of the laboratory industry claim that private payer-based rates established through the first round of data reporting are fundamentally flawed because a disproportionate share of the data was reported by the independent laboratories owned by LabCorp and Quest, which are located in large urban areas and have lower cost structures than other laboratories. These representatives claim that, compared with independent laboratories, hospital outpatient and physician-office laboratories receive higher private-payer rates; thus, their underrepresentation in the first round of data reporting artificially lowered Medicare's payment rates.

Implementing private payer-based rates substantially lowered CLFS rates, but rates for some tests increased

We estimate that Medicare CLFS payment rates will decrease by an average of 24 percent once private-payer rates are fully phased in in 2025.¹⁴ However, payment rate changes are not uniform across types of laboratory tests. The transition to private payer-based rates has resulted in much larger payment reductions for low-cost, routine tests compared with newer, more expensive tests.

CMS made changes designed to increase the number and type of laboratories required to report data in the future

CMS made two technical changes to the definition of laboratories that are required to report their private-payer rates for the second round of data reporting, which is scheduled to occur in 2022. These changes were made to increase the total number of laboratories required to report.

First, CMS made it easier for laboratories to meet the majority of Medicare revenues threshold by removing Medicare Advantage (MA) plan revenue from the denominator of the calculation. To meet the majority of Medicare revenues threshold, a laboratory must receive more than 50 percent of its total Medicare revenues from fee-for-service payments under the clinical laboratory fee schedule (CLFS) or the physician fee schedule. In the first round of data reporting, CMS instructed laboratories to include all Medicare revenue, including MA revenue, in the denominator of that calculation. Thus, laboratories that predominantly served MA beneficiaries were likely not required to report. In 2019, about 41 percent of Part B beneficiaries were enrolled in MA, and in some areas, more than 60 percent of Part B beneficiaries were enrolled in MA (Boards of Trustees 2020, Medicare Payment Advisory Commission 2020).

Second, CMS made it easier for hospital outreach laboratories to meet the majority of Medicare revenues threshold by determining their eligibility separate from their parent hospital. A hospital outreach laboratory is

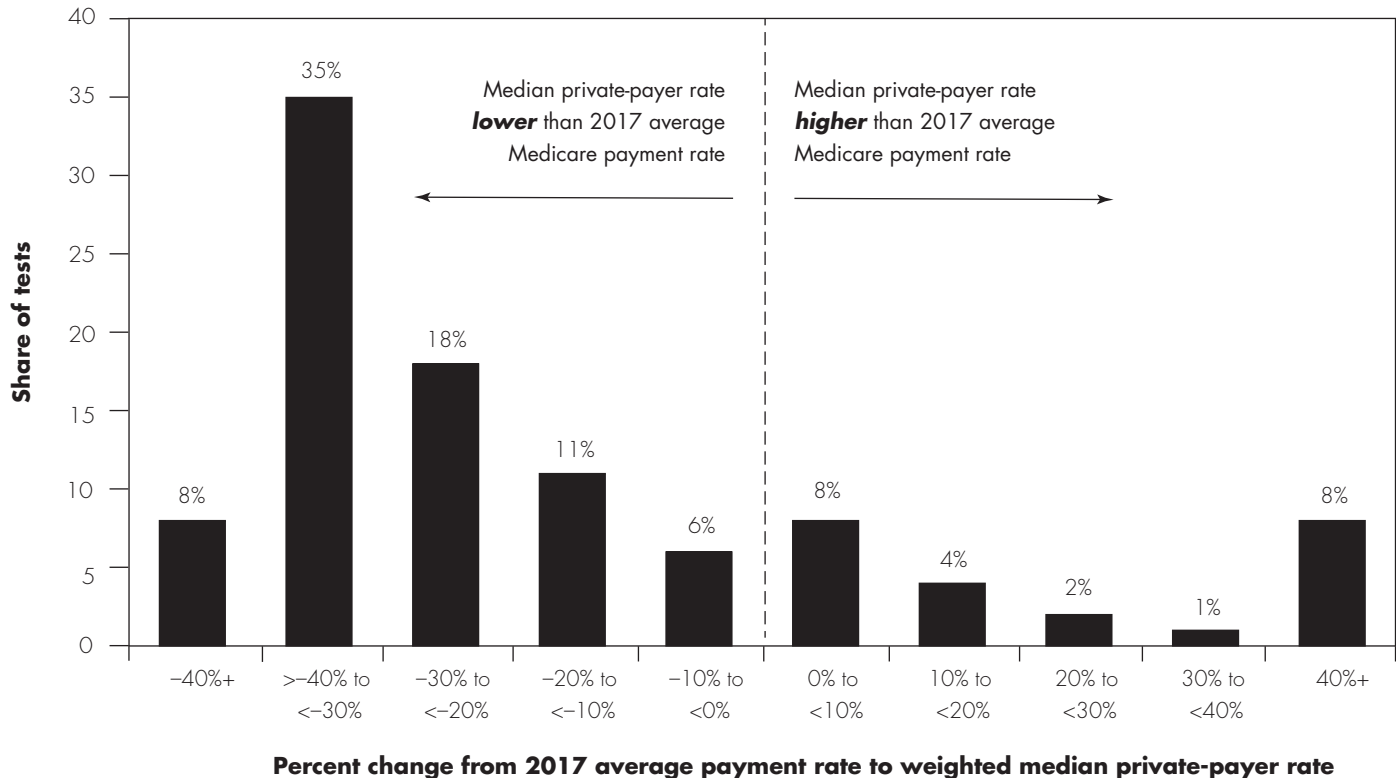
a hospital-based laboratory that furnishes laboratory tests to patients other than admitted inpatients or registered hospital outpatients (Centers for Medicare & Medicaid Services 2019b). CMS created a new pathway to require hospital outreach laboratories to report their private-payer data, based on Form CMS-1450 14x type of bill. If a hospital outreach laboratory bills under its own national provider identifier (NPI), then whether it meets the majority of Medicare revenues threshold is based on its own NPI (no change from the first round of data reporting). However, if a hospital outreach laboratory bills under its parent hospital's NPI, then whether it meets the majority of Medicare revenues threshold is determined using only the Medicare revenues from tests reported on the Form CMS-1450 14x type of bill. CMS-1450 is the standard form institutional providers, including hospitals, use to submit claims to Medicare and other payers. The 14x type of bill is used only for hospital outreach laboratory tests; other services are billed under other bill types.¹⁵ Because the 14x type of bill is used only for hospital outreach laboratory tests, nearly all hospital outreach laboratories should meet the majority of Medicare revenues threshold for the next round of data reporting.¹⁶

The actual effect of these two revisions will not be fully understood until the second data reporting period, which is currently scheduled for January through March of 2022 (see Figure 9-1, p. 307). ■

Average Medicare rates are projected to fall by 24 percent by 2025

To establish our projection of a 24 percent drop in average CLFS payment rates, we calculated the average payment rate for each CLFS test in 2017 and compared those calculations with the weighted median private-payer rate that CMS began using to set payment rates in 2018.¹⁷ (The full 24 percent reduction will not be realized until 2025 because of the long phase-in of payment rate reductions.) We then weighted payment rate changes by Medicare CLFS spending for each CLFS test.

Private payer-based rates reported by laboratories were lower than Medicare's 2017 average payment rates for most (but not all) laboratory tests. The Commission found that reported private payer-based rates were lower than Medicare's 2017 average payment rates for 77 percent of laboratory tests, but higher for 23 percent of tests. Figure 9-2 (p. 310) shows a distribution of payment rate changes for the 1,184 laboratory tests we analyzed.

**FIGURE
9-2****Private payer-based rates were lower than Medicare's 2017 average payment rate for most CLFS laboratory tests**

Note: CLFS (clinical laboratory fee schedule). Payment rate changes reflect the fully phased-in weighted median private-payer rates.

Source: MedPAC analysis of Medicare CLFS claims and CMS-published weighted median payment rates.

Transitioning to private-payer rates has resulted in smaller price declines or price increases for newer, high-cost laboratory tests

The transition to private payer-based rates has resulted in much larger payment reductions for low-cost, routine tests compared with newer, more expensive tests. Once private payer-based rates are fully phased in, we estimate that payment rates for routine, low-cost tests, such as chemistry tests, will decline on average between 20 percent and 30 percent (Table 9-4). In contrast, on average, newer, more expensive tests will tend to have smaller payment rate declines (e.g., molecular pathology tests) or payment rate increases (e.g., genomic sequencing procedures

and multianalyte assays with algorithmic analyses). For example, in the multianalyte assays with algorithmic analyses category, two tests with relatively high Medicare spending drove the results. The 2018 median private-payer rate for one test (HCPCS code 81528) was nearly identical to Medicare's average payment rate in 2017 at just over \$500 per test, and for a second test (HCPCS code 81519), the median private-payer rate was about 15 percent above Medicare's average payment amount (\$3,873 vs. \$3,374) (data not shown).

While the field of genetic testing is still nascent and changing rapidly, these early results suggest that private payers may not be able to negotiate lower prices for newer, more expensive laboratory tests in the same

**TABLE
9-4**

On average, transitioning to private payer-based rates has led to large reductions for routine tests but not for newer, high-cost tests

Type of test	Number of tests (unique HCPCS codes)	Average percent change from 2017 payment rate to weighted median private-payer rate
Multianalyte assays with algorithmic analyses	18	12.2%
Genomic sequencing procedures	13	1.0
Molecular pathology	117	-11.7
Other	90	-18.0
Organ- or disease-oriented panels	10	-19.4
Screening procedures	8	-21.2
Urinalysis	10	-23.7
Microbiology	206	-27.1
Immunology	186	-27.1
Drug assays	47	-27.3
Chemistry	385	-27.8
Hematology and coagulation	94	-30.5
Total	1,184	-24.2

Note: HCPCS (Healthcare Common Procedure Coding System). Payment rate changes reflect the fully phased-in weighted median private-payer rates. Average percent change was weighted by 2017 Medicare fee-for-service spending for each HCPCS code. HCPCS codes were excluded from this analysis if they did not have Medicare fee-for-service utilization in 2017 or a weighted median private-payer rate. After these exclusions, this analysis included more than 99 percent of CLFS spending in 2017.

Source: MedPAC analysis of carrier file, outpatient file, and CMS-published weighted median payment private-payer data.

manner as they do for more routine tests. In the private market, payers have responded to the growth in laboratory spending, especially among new high-cost tests, using an array of utilization management tools, most of which are not available in FFS Medicare (see text box, pp. 312–313).

Use of CLFS tests has been stable under new payment rates, but spending increased

Representatives of the laboratory industry cautioned that the new market-based payment rates would “create severe disruptions in access to laboratory services” (American Clinical Laboratory Association 2017). However, overall utilization of CLFS laboratory tests has remained relatively unchanged following CMS’s

implementation of private payer-based rates, suggesting stable access to CLFS laboratory tests among Medicare FFS beneficiaries. In contrast to relatively flat utilization rates, Medicare CLFS spending has increased after CMS implemented private payer-based rates. This spending increase was predominantly driven by new, high-cost tests.

From 2017 to 2019, the average number of laboratory tests Medicare FFS beneficiaries received increased by less than 1 percent, from 12.8 tests to 12.9 tests per beneficiary.¹⁸ For most categories of laboratory tests, utilization changed modestly from 2017 to 2019. However, during this period, utilization increased rapidly for four categories of tests—molecular pathology, multianalyte assays with algorithmic analyses, proprietary laboratory analyses, and genomic sequencing procedures—that comprise many new, high-cost tests (Table 9-6, p. 314).¹⁹

Private payers increasingly use utilization management tools to address laboratory spending

Private payers (including Medicare Advantage plans) employ a variety of utilization management tools to reduce spending on laboratory tests. These tools are largely unavailable in fee-for-service Medicare. Table 9-5 describes common utilization management tools private payers use to manage their laboratory benefits.

Many tools used by private payers to manage their laboratory benefits have long been used for other types of health care services or products, such as physician-administered drugs and advanced imaging services. For example, prior authorization is one of the most common tools payers use to manage their laboratory benefits. Given the administrative burden associated with prior authorization, payers more commonly use this tool for new, high-cost laboratory tests rather than low-cost, routine tests.

Private payers have also recently invested in efforts to shift laboratory tests away from higher cost providers toward lower cost providers, typically by shifting utilization from hospital outpatient and physician-office laboratories to independent laboratories.

UnitedHealthcare's designated diagnostic provider program, under which laboratories must agree to certain efficiency and quality requirements to continue being paid by the plan, is one high-profile example of this trend (Bannow 2021). Payers justify these efforts by noting that some laboratories receive payment rates that are far higher, often five times higher, than other laboratories. Such high prices can drive up enrollee premiums and, because cost sharing for laboratory tests is more common among the commercially insured population than in Medicare, directly increase costs for patients as well.

Finally, one area of increasing activity is the use of laboratory benefit managers (LBMs). Similar to pharmacy benefit managers, LBMs contract with payers to manage laboratory test utilization. LBMs often create and manage payers' coverage policies for laboratory tests and can influence pricing and site of service. While LBMs have not been studied as well as pharmacy benefit managers, recent research has found that three of the four largest commercial payers use LBMs, suggesting their use is prevalent (Phillips and Deverka 2019). ■

(continued next page)

While overall utilization of CLFS tests remained stable, Medicare CLFS spending increased after CMS implemented private payer-based rates. From 2017 to 2019, Medicare CLFS spending increased from \$7.1 billion to \$7.5 billion, an increase of 6 percent (Table 9-6, p. 314).²⁰ This increase was predominantly driven by spending increases for new, high-cost tests in the molecular pathology, multianalyte assays with algorithmic analyses, proprietary laboratory analyses, and genomic sequencing procedures categories. For other categories of tests (e.g., organ- or disease-oriented panels), expected declines in Medicare spending associated with the transition to private payer-based rates had yet to occur as of 2019 or were smaller than anticipated. A small

number of technical issues drove the higher-than-expected spending for these tests (see text box, pp. 316–317).

Independent laboratories gained market share after CMS implemented private payer-based rates

The number of CLFS laboratory tests billed by independent laboratories increased after CMS implemented private payer-based rates, while the number performed by hospital outpatient and physician-office laboratories decreased slightly. From 2017 to 2019, the number of laboratory tests per beneficiary billed by independent laboratories rose by 2.4 percent, while the number of tests per beneficiary billed by hospital

Private payers increasingly use utilization management tools to address laboratory spending (cont.)

**TABLE
9-5**

Common private-payer utilization management tools for laboratory tests

Utilization management tool	Description
Preferred laboratory network	Payers work with specific laboratories and providers to create a network of preferred contractors to provide services at reduced rates for patients.
Prior authorization	Payers must authorize the use of a service before the patient receives it. Typically, this tool is used for certain high-cost genetic and molecular pathology laboratory tests.
Laboratory test registry	Laboratories must submit unique test codes for each service they provide and bill the appropriate code on all claims. Each test code submitted on a claim must match a corresponding laboratory test registration provided in advance.
Genetic counseling	Patients must meet with a genetic counselor to become fully informed about complex genetic tests and make an informed decision about testing.
Laboratory test formulary	Payers create a system of tiers of approval for laboratory tests, where higher tiers need additional approval and can have higher patient cost sharing associated with them.
Cost sharing*	Payers create a system of variable cost sharing based on the type of laboratory test or the type of laboratory furnishing the test.
Bundled payments*	Payers use claim-editing systems that bundle the payment for individual laboratory tests into one payment to recognize the efficiencies associated with furnishing multiple, similar tests at the same time.

Note: *Differential cost sharing and bundled payments are often considered pricing rather than utilization management tools. We include them in this list because private payers employ them to manage their laboratory benefit, and the Medicare fee-for-service program generally does not.

Source: MedPAC analysis of private-payer policies.

outpatient and physician-office laboratories both fell by 1.0 percent (Table 9-7, p. 315). The shift that occurred after private payer-based rates were implemented was slight and may be at least partially related to a longer-term trend of LabCorp and Quest increasing their market shares (data not shown).

Medicare CLFS spending for tests billed by independent laboratories also increased after CMS implemented private payer-based rates, while spending associated with hospital outpatient and physician-office laboratories decreased. From 2017 to 2019, spending for independent laboratories rose by 16.1 percent, while spending for hospital outpatient and physician-office laboratories fell by 9.0 percent and 5.8 percent, respectively (Table 9-7, p. 315). Spending among independent laboratories grew because these laboratories billed for nearly all the new, high-cost

tests for which spending increased over the period. For example, in 2019, independent laboratories accounted for 93 percent of all CLFS spending for molecular pathology tests, whereas hospital outpatient and physician-office laboratories accounted for only 6 percent and 1 percent, respectively (data not shown). Meanwhile, Medicare spending fell for hospital outpatient and physician-office laboratories because of the small utilization declines and because their billings were concentrated in routine, low-cost tests (e.g., chemistry tests) that experienced payment rate reductions under the new private payer-based rates.

Despite the modest shift in site of service toward independent laboratories (and away from hospital outpatient and physician-office laboratories), relatively flat CLFS laboratory test utilization from 2017 to 2019 suggests that the introduction of private payer-based

**TABLE
9-6**

From 2017 to 2019, overall use of CLFS tests remained relatively steady, but Medicare spending increased due to greater use of new, high-cost tests

Type of test	2017		2019		Percent change (2017-2019)	
	Medicare spending (in millions)	Tests per beneficiary	Medicare spending (in millions)	Tests per beneficiary	Medicare spending	Tests per beneficiary
Chemistry	\$2,692	5.16	\$2,327	5.21	-13.5%	1.0%
Organ- or disease- oriented panels	1,052	2.64	1,057	2.64	0.5	0.0
Drug assays	988	0.33	944	0.34	-4.4	0.3
Molecular pathology	240	0.03	844	0.05	251.5	79.4
Microbiology	618	0.96	739	1.09	19.6	13.4
Hematology and coagulation	615	2.18	481	2.05	-21.8	-6.1
Multianalyte assays with algorithmic analyses	290	0.01	461	0.02	59.1	64.4
Immunology	375	0.67	343	0.70	-8.6	5.1
Proprietary laboratory analyses	N/A	N/A	116	0.00	N/A	N/A
Screening procedures	91	0.11	73	0.11	-19.4	-0.8
Urinalysis	87	0.69	70	0.68	-18.7	-2.5
Genomic sequencing procedures	23	0.00	46	0.00	104.5	126.0
Other	31	0.03	27	0.03	-12.5	-6.0
Total	7,102	12.81	7,531	12.90	6.0	0.7

Note: CLFS (clinical laboratory fee schedule), N/A (not applicable). We used the number of Part B fee-for-service beneficiaries to calculate the number of tests per beneficiary. From 2017 to 2019, the number of Part B beneficiaries decreased by 1.4 percent. Data from 2019 may be slightly less complete than 2017 data because the data were pulled before the standard 18-month runoff of claims was complete. The proprietary laboratory analyses category did not have substantial utilization in 2017. The drug assay category includes therapeutic drug assays, definitive drug testing, and presumptive drug class screening. Categories with at least \$40 million in Medicare spending in 2019 are listed separately. The "other" category includes several categories of tests, such as cytopathology tests. Components may not sum to totals because of rounding.

Source: Acumen LLC analysis of Medicare CLFS claims for MedPAC and 2020 annual report of the Boards of Trustees of the Medicare trust funds.

payment rates had little impact on FFS beneficiaries' access to laboratory tests. However, the rate reductions were not fully implemented in 2018 and 2019. To the extent that the payment changes ultimately result in utilization changes, the effect might not become evident for several years. In addition, beginning in 2020, the coronavirus pandemic has substantially affected the laboratory industry by temporarily depressing demand for routine laboratory tests and creating demand for a new class of tests for COVID-19. These changes likely will complicate longitudinal analyses of laboratory test utilization patterns.

Clinical laboratories played a critical role in responding to the coronavirus pandemic. Some industry stakeholders have suggested that the pandemic has negatively affected the finances of laboratories and that the payment rate reductions under PAMA should therefore be suspended. However, the Commission's review of the financial reports of several large, publicly traded laboratories suggests that COVID-19 testing has been extremely profitable for laboratories that perform a high volume of such tests, and the increased income associated with COVID-19 testing has more than offset lost income from pandemic-related declines in routine testing and PAMA-mandated payment rate reductions. Laboratories that did not perform many

**TABLE
9-7**

After private payer-based rates were implemented, CLFS spending and utilization increased for independent laboratories but decreased for hospital outpatient and physician-office laboratories

Laboratory type	2017		2019		Percent change (2017–2019)	
	Medicare spending (in millions)	Tests per beneficiary	Medicare spending (in millions)	Tests per beneficiary	Medicare spending	Tests per beneficiary
Independent	\$4,057	6.2	\$4,710	6.3	16.1%	2.4%
Hospital outpatient	1,711	3.7	1,557	3.7	–9.0	–1.0
Physician office	1,284	2.8	1,210	2.8	–5.8	–1.0
Other	50	0.1	54	0.1	7.8	7.3
Total	7,102	12.8	7,531	12.9	6.0	0.7

Note: CLFS (clinical laboratory fee schedule). We used the number of Part B fee-for-service beneficiaries to calculate the number of tests per beneficiary. Data from 2019 might be slightly less complete than 2017 data because the data were pulled before the standard 18-month runoff of claims was complete. "Other" laboratories include those located in settings such as nursing facilities or end-stage renal disease facilities.

Source: Acumen LLC analysis of Medicare CLFS claims for MedPAC and 2020 annual report of the Boards of Trustees of the Medicare trust funds.

COVID-19 tests were likely negatively affected financially by the pandemic, as declines in these laboratories' routine testing were not offset by higher revenue from COVID-19 testing. (See text box on financial performance, p. 319).

Sampling laboratories could produce accurate rates with less burden on laboratories

Ahead of the second round of data reporting, the Congress directed the Commission to examine alternatives to CMS's initial methodology used to set 2018 payment rates. We worked with a third-party contractor, RTI International (RTI), to examine survey methodologies that could be used to collect a representative and statistically valid sample of independent, hospital outreach, and physician-office laboratories.²¹ (We present a brief summary of RTI's work in this chapter; the full report is available on the Commission's website (RTI International 2021).)

RTI concluded that collecting private-payer data by surveying a sample of laboratories could produce accurate estimates of private-payer rates for independent, hospital outreach, and physician-office laboratories. RTI also

found that using a survey could reduce the number of laboratories that would be required to report private-payer data by up to 70 percent. While RTI's analyses demonstrate the feasibility of surveying laboratories to collect private-payer data, the work should be considered a proof of concept; further analysis would be needed if a survey were implemented to set Medicare payment rates.

RTI evaluated two sampling methods

RTI evaluated two sampling methods: stratified sampling and Maximal Brewer Selection (MBS). Stratified sampling is a commonly used sampling method that divides the sampling frames into mutually exclusive and exhaustive subpopulations, known as sampling strata. In this case, the sampling strata are the HCPCS codes and the sampling units are the laboratories. Typically, in stratified sampling, sampling units are unique to each sampling strata. For example, if sampling people by age and sex categories, each person (the sampling unit) is in only one age-sex category (sampling strata). However, when sampling laboratories, most laboratories (the sampling unit) bill for multiple HCPCS codes (sampling strata). RTI concluded that the fact that laboratories commonly bill for many HCPCS codes created challenges for its stratified sampling process.

Increased use of new, high-cost tests and technical implementation issues boosted Medicare spending after private payer-based rates were implemented in 2018

In contrast to expectations, Medicare clinical laboratory fee schedule (CLFS) spending increased after CMS implemented private payer-based rates. From 2017 to 2019, Medicare CLFS spending rose from \$7.1 billion to \$7.5 billion, an increase of 6 percent. We identified four key factors that drove this increase from 2017 to 2019:

1. Rapid rise in the use of new, high-cost tests—The rapid rise in the use of new, high-cost laboratory tests was the main driver of the growth in CLFS expenditures after private payer-based rates were implemented. However, the new rates did not directly cause higher expenditures on such tests. Rather, the introduction and broader adoption of new, high-cost tests is a secular trend in the laboratory industry that predates the transition to private payer-based rates (e.g., these tests also contributed to growth in Medicare spending from 2016 to 2017, before private payer-based rates were implemented). Greater use of the high-cost tests could also be due in part to fraud and abuse: In 2019, the Department of Justice alleged that numerous defendants fraudulently billed Medicare more than \$2.1 billion for cancer genetic tests (Department of Justice 2019).

2. Phase-in of payment rate reductions using national limitation amounts—In 2018 and 2019, payment rate reductions were capped at 10 percent per year. CMS calculated the 10 percent decrease on the basis of national limitation amounts. However, before the reductions, Medicare paid less than the national limitation amount for some tests, so a 10 percent reduction from the national limitation amount could actually result in a payment rate increase. For example, for a comprehensive metabolic panel (Healthcare Common Procedure Coding System (HCPCS) code 80053), Medicare's 2017 national limitation amount was \$14.49 and the private payer-based rate was \$9.08, 37 percent less. After accounting for the phase-in, Medicare's payment rate in 2018 was \$13.04. However, because Medicare paid for many metabolic panels at rates lower than the national limitation amount, Medicare's actual average payment rate in 2017 was \$11.16. So from 2017 to 2018, Medicare's payment per test increased from \$11.16 to \$13.04.²² While this issue increased Medicare spending during the 2017 to 2019 period, the effect is transient and lessens each year as payment rate reductions are phased in.

(continued next page)

The second sampling method RTI evaluated, MBS, does not require explicit stratification by HCPCS code. Previously, MBS has been used to collect data for commodities produced by farms, in which farms can produce different sets of commodities. Since this previous application of MBS is analogous to collecting data for HCPCS codes billed by laboratories, in which laboratories can bill different sets of HCPCS codes, MBS is likely a more appropriate method to survey laboratories than a stratified sampling method.²³

Because RTI believed MBS was better suited to collect private-payer laboratory rates, we present results for only that survey methodology. (The full results for both MBS and stratified sampling methods are included in RTI's report (RTI International 2021).)

A survey of laboratories could produce accurate results and reduce the burden of reporting on laboratories

RTI assessed whether a survey could produce accurate results by measuring the extent to which their simulated survey resulted in unbiased estimates of payment rates. To

Increased use of new, high-cost tests and technical implementation issues boosted Medicare spending after private payer-based rates were implemented in 2018 (cont.)

3. ***Immediate implementation of payment rate increases***—In contrast to payment rate reductions, payment rate increases were effective immediately. Medicare’s payment rates increased for about one in five tests under the private payer-based system. For example, from 2017 to 2018, Medicare’s payment rate for one molecular pathology test (HCPCS code 81295) went from about \$153 to \$382 per test, which boosted Medicare expenditures by about \$26 million in 2018 and 2019.
4. ***Separate payment instead of bundled rates for more tests***—Before 2018, Medicare paid a bundled rate for 23 chemistry tests when 2 or more of them were performed as a group, referred to as “panel tests.” Some combinations of these chemistry tests are common enough that they have their own HCPCS codes. For example, renal function panels consist of 10 chemistry tests and are billed under a distinct HCPCS code (80069) (Centers for Medicare & Medicaid Services 2020a). Other combinations of chemistry tests do not have separate HCPCS codes from their component tests. Before 2018, CMS used a claims processing algorithm to pay for these tests on a bundled basis instead of paying for each individual HCPCS code. This payment mechanism recognized the efficiencies associated with performing multiple tests at the same time and paid laboratories only modestly more for each additional test.

For the second group of tests (i.e., those without a separate HCPCS code), CMS has asserted that the Protecting Access to Medicare Act of 2014 requires each test to be paid separately, based on private-payer rates. As a result, Medicare stopped paying bundled rates for such tests in 2018, and Medicare’s average payment for these tests increased.²⁴ For example, from 2017 to 2018, Medicare’s average payment per test for an assay of phosphorus (HCPCS code 84100) climbed by about 71 percent, from \$3.31 to \$5.65. In aggregate, from 2017 to 2018, Medicare spending for these 23 chemistry tests increased by 79 percent, from \$109 million to \$196 million, and then declined to about \$164 million in 2019 as payment rate reductions continued to be phased in.

While the increase in Medicare spending for tests that were once paid on a bundled basis has been moderate, the unbundled rates likely do not accurately reflect the costs of furnishing these tests. To address this issue, the Congress could consider giving CMS authority to bundle payments for these and other tests that the Secretary deems appropriate. Further, to the extent that private payers increasingly bundle payments for multiple tests, giving CMS this additional authority could help ensure that the Medicare’s payment rates accurately reflect private-payer rates in the future. ■

measure bias, RTI calculated the difference between the mean payment rate estimate from a sample of laboratories and the mean payment rate from all laboratories and then divided that difference by the mean payment rate from all laboratories. For example, to measure the bias for a given HCPCS code among independent laboratories, RTI calculated the difference between the mean payment rate estimate from a sample of independent laboratories (which RTI simulated using Medicare claims and private-payer

data) and the mean payment rate from all independent laboratories and then divided that difference by the mean payment rate from all independent laboratories.²⁵

Given time and resource limitations, RTI calculated the potential bias for 10 HCPCS codes for samples of independent, hospital outreach, and physician-office laboratories.²⁶ For these 10 tests, RTI found that MBS produced unbiased results; that is, the empirical bias was

**TABLE
9-8****Simulated survey of physician-office laboratories resulted in unbiased estimates of payment rates for 10 illustrative laboratory tests**

HCPCS code	Minimum number of laboratories sampled for each HCPCS code		
	10	20	30
80053 (2,508 laboratories with data)			
Number of laboratories in sample	957	1,303	1,523
Empirical bias	0.000	0.000	0.002
80061 (2,498 laboratories with data)			
Number of laboratories in sample	947	1,291	1,508
Empirical bias	-0.004	-0.001	-0.001
82378 (338 laboratories with data)			
Number of laboratories in sample	206	254	278
Empirical bias	0.001	-0.001	-0.002
83036 (2,671 laboratories with data)			
Number of laboratories in sample	934	1,289	1,520
Empirical bias	-0.002	-0.002	0.003
84445 (54 laboratories with data)			
Number of laboratories in sample	44	47	51
Empirical bias	0.000	0.000	0.000
86003 (155 laboratories with data)			
Number of laboratories in sample	107	124	138
Empirical bias	-0.018	-0.003	0.001
86148 (19 laboratories with data)			
Number of laboratories in sample	18	19	19
Empirical bias	0.000	0.000	0.000
87150 (12 laboratories with data)			
Number of laboratories in sample	11	12	12
Empirical bias	0.000	0.000	0.000
87902 (33 laboratories with data)			
Number of laboratories in sample	30	32	33
Empirical bias	0.000	0.000	0.000
88262 (10 laboratories with data)			
Number of laboratories in sample	10	10	10
Empirical bias	0.000	0.000	0.000

Note: HCPCS (Healthcare Common Procedure Coding System). Empirical bias was calculated as the difference between the mean payment rate estimate from the sample and the mean payment rate from the sampling frame divided by the mean payment rate from the sampling frame. This table contains results for physician-office laboratories using Maximal Brewer Selection; see the full contractor report for the results for independent and hospital outreach laboratories and for results using stratified sampling (RTI International 2021). RTI restricted physician-office laboratories to those with spending greater than or equal to \$25,000 in 2018.

Source: RTI International analysis of 2018 Medicare claims and CMS private-payer data.

close to zero. The empirical bias is close to zero when the mean payment rates of the surveyed laboratories were nearly identical to the mean payment rates of all laboratories of the same type. For example, for a comprehensive metabolic panel test (HCPCS code 80053), RTI found that the mean payment rate of the surveyed physician-office laboratories was nearly identical to the

mean for all physician-office laboratories—that is, the empirical bias ranged from 0.000 to 0.002 (Table 9-8). In addition to the empirical bias, Table 9-8 also shows the total number of laboratories that billed Medicare for each test in 2018 and the number of sampled laboratories when the minimum number of laboratories surveyed for all CLFS HCPCS codes was set at 10, 20, or 30.²⁷

Financial performance of laboratories during the coronavirus pandemic

During the coronavirus pandemic, revenues and operating profits have increased substantially for the two largest laboratory companies in the U.S. From 2019 to 2020, LabCorp's revenue increased by 32 percent (\$7.0 to \$9.3 billion), and the company's operating profit increased by 143 percent (\$1.1 to \$2.6 billion) (Laboratory Corporation of America 2021a).²⁸ Over the same period, Quest's revenue increased by 22 percent (\$7.7 to \$9.4 billion), and the company's operating profit increased by 60 percent (\$1.2 to \$2.0 billion) (Quest Diagnostics 2021a). In 2020, LabCorp's and Quest's operating profit margins were 28 percent and 21 percent, respectively.

When the coronavirus pandemic began in the spring of 2020, routine clinical laboratory testing declined substantially, by 50 percent or more for some laboratories (Laboratory Corporation of America 2020b). However, routine clinical laboratory testing rebounded throughout the year, with estimates suggesting volume was less than 10 percent below prepandemic levels as of the fourth quarter of 2020 (Laboratory Corporation of America 2021b). COVID-19 testing increased throughout 2020 and peaked in the fourth quarter. As a result, laboratory revenues and profits were lower earlier in 2020 and much higher later in the year. For example, compared with the fourth quarter of 2019, LabCorp's and Quest's operating profits in the fourth quarter of 2020 increased by 345 percent and 119 percent, respectively

(Laboratory Corporation of America 2021b, Quest Diagnostics 2021b).

These financial results suggest that, for these two laboratories, COVID-19 testing has been very profitable and has more than offset the losses attributable to lower routine testing volume and Medicare's payment rates reductions stemming from the Protecting Access to Medicare Act of 2014. As a result, LabCorp and Quest announced they will return all the funding they received through the Coronavirus Aid, Relief, and Economic Security Act, \$132 million and \$138 million, respectively (Laboratory Corporation of America 2020a, Quest Diagnostics 2020).

While LabCorp's and Quest's financial performance has improved substantially during the coronavirus pandemic, other laboratories may be less profitable in general or may not have similarly benefited financially from the increase in volume associated with COVID-19 testing. For example, one national laboratory had a negative operating margin in 2019, but because the company performed a large volume of COVID-19 tests, their laboratory revenues increased 76 percent from 2019 to 2020 and the company was profitable in 2020 (OPKO Health Inc. 2021). In addition, laboratories that perform few COVID-19 tests, and thus face lower routine testing volume without the benefit of increased COVID-19 testing, have likely been negatively financially affected by the coronavirus pandemic. ■

Beyond the underrepresentation of physician-office and hospital outpatient laboratories, one of the main concerns regarding the first round of private-payer data reporting was the burden it created for laboratories. Stakeholders from the laboratory industry have said that complying with the data reporting requirements cost one company over \$1 million and more than 20,000 hours of employee time. In addition, CMS exempted low-expenditure laboratories, partially out of concern that complying with the requirement might be burdensome.

Given the concerns regarding burden, RTI assessed the burden of a survey. Once a laboratory was surveyed, the burden of data reporting would largely be the same as during the first round of data reporting, so RTI measured burden in terms of the number of laboratories expected to be surveyed under varying assumptions.

Relative to the total number of laboratories, RTI found that using a survey to set Medicare rates could reduce the number of laboratories that would be required to submit

**TABLE
9-9****Collecting private-payer data through a survey
could reduce the reporting burden on laboratories**

Type of laboratory	Number of laboratories in sampling frame	Number of HCPCS codes with at least one test	Minimum number of laboratories for each HCPCS code	Expected number of laboratories sampled	Share of laboratories expected to be sampled
Independent	2,772	1,197	10	867	31%
			20	1,118	40
			30	1,287	46
Hospital outreach	3,321	1,105	10	1,139	34
			20	1,572	47
			30	1,828	55
Physician office	4,627	1,023	10	1,381	30
			20	1,935	42
			30	2,305	50

Note: HCPCS (Healthcare Common Procedure Coding System). This table contains results for Maximal Brewer Selection; see the full contractor report for the results for stratified sampling (RTI International 2021). RTI restricted physician-office laboratories to those with spending greater than or equal to \$25,000 in 2018. The expected sample size for Maximal Brewer Selection is for all HCPCS codes.

Source: RTI International analysis of 2018 Medicare claims data.

private-payer data by up to 70 percent. For example, assuming that data were collected from at least 10 laboratories for each CLFS HCPCS code, only 30 percent of physician-office laboratories would need to be surveyed (1,381 of 4,627) (Table 9-9). While these results suggest many laboratories would not be required to submit their private-payer data if CMS used a survey to collect data, further accommodations could be made to exempt certain classes of laboratories. For example, the numbers in Table 9-9 exclude physician-office laboratories with less than \$25,000 in Medicare CLFS spending in 2018.

RTI's report demonstrates that collecting private-payer rates from a representative sample of independent, hospital outreach, and physician-office laboratories is feasible and could substantially reduce the burden on laboratories. However, further analysis would be needed to comprehensively explore this alternative rate-setting process.

In addition to using a survey to collect private-payer rates, some stakeholders have suggested other alternatives to setting Medicare's CLFS payment rates (see text box on alternative methods, pp. 322–323).

Basing CLFS rates on a representative sample of laboratories would increase spending

To examine the extent to which incorporating data from a representative sample of independent, hospital outpatient, and physician-office laboratories would affect Medicare's CLFS spending, we first analyzed how hospital outpatient and physician-office laboratories' private-payer rates compared with those received by independent laboratories. If hospital outpatient and physician-office laboratories receive higher private-payer rates than independent laboratories, increasing hospital outpatient and physician-office laboratories' representation in the data CMS uses to calculate CLFS payment rates could result in higher Medicare spending for laboratory tests.

To study private-payer rates across types of laboratories, we primarily relied on private-payer data reported to CMS and supplemented those data with commercial insurer data from FAIR Health and a large, national preferred

**TABLE
9-10****Physician-office and hospital outpatient laboratories reported higher private-payer rates than independent laboratories in 2016****Payment rates as a percentage of independent laboratory rates
(among top 100 CLFS laboratory tests in 2016)**

	Physician-office laboratories	Hospital outpatient laboratories
5th percentile	110%	106%
25th percentile	150	142
Weighted average	153	145
75th percentile	164	154
95th percentile	193	167

Note: CLFS (clinical laboratory fee schedule). Other types of laboratories also received higher private-payer rates compared with independent laboratories but were excluded from this table because they accounted for less than 1 percent of Medicare CLFS spending in 2016. The average is weighted by 2016 Medicare spending for each laboratory test. A small number of the top 100 HCPCS codes were excluded from this analysis because they were exclusively furnished by independent laboratories.

Source: MedPAC analysis of carrier file, outpatient file, and CMS-collected private-payer data.

provider organization. We focused our analyses on the 100 laboratory tests with the highest Medicare CLFS spending in 2016. These 100 tests accounted for 85 percent of all CLFS spending in 2016.²⁹

Our analysis of private-payer data reported to CMS found that hospital outpatient and physician-office laboratories were paid, on average, rates that were 45 percent and 53 percent higher, respectively, than those paid to independent laboratories (Table 9-10).³⁰ While results varied for each of the 100 laboratory tests we examined, hospital outpatient and physician-office laboratories were paid higher rates than independent laboratories for nearly all of the tests we examined. For example, at the 5th and 95th percentile of the tests we examined, physician-office laboratories were paid rates 10 percent higher and 93 percent higher, respectively, compared with independent laboratories (Table 9-10).

While we focused primarily on comparisons between types of laboratories, payment rates also varied within laboratory types.³¹ Variation of private-payer rates within types of laboratories has important implications when considering the potential effects of increasing reporting from hospital outpatient and physician-office laboratories. For example, during the first round of data reporting, independent laboratories reported about 90 percent of the volume for lipid panel tests (HCPCS code 80061),

and hospital outpatient and physician-office laboratories accounted for nearly all the remaining 10 percent. Independent laboratories had a weighted median payment rate of \$10.86 per test, much lower than the weighted median payment rates for hospital outpatient (\$17.14) and physician-office (\$18.24) laboratories (Figure 9-3, p. 324). Based on the combination of these data, CMS set the weighted median payment rate at \$11.23, slightly above the median independent laboratory rate. On the one hand, these results suggest that enhanced data reporting from hospital outpatient and physician-office laboratories could increase weighted median payment rates, even if independent laboratories account for most of the volume because of variations in payment rates within laboratory types. On the other hand, these results underscore that, even with enhanced data reporting from hospital outpatient and physician-office laboratories, weighted median payment rates are likely to be substantially below the median payment rates for hospital outpatient and physician-office laboratories because the rates would be set using most of the volume from independent laboratories and the left-hand part of the price distribution for hospital outpatient and physician-office laboratories.

CMS collected data from laboratories that accounted for the vast majority of Medicare CLFS spending associated with independent laboratories (see Table 9-3, p. 308). In contrast, physician-office laboratories and hospital

Alternative methods for setting Medicare payment rates for laboratory tests

Stakeholders have suggested additional alternative methods to set Medicare's payment rates for laboratory tests, including competitive bidding and relying on private-payer databases.

Competitive bidding is a process by which suppliers submit bids to provide certain products or services to Medicare beneficiaries, and Medicare sets its payment rates based on those bids. Most notably, a competitive bidding program has been used in Medicare to pay for durable medical equipment (DME). Competitive bidding has substantially reduced Medicare and beneficiary spending on DME since the program began in 2011. While some have suggested the design of the bidding system is flawed, others have noted that there is sparse empirical evidence to suggest the program has negatively affected beneficiaries' health outcomes (Centers for Medicare & Medicaid Services 2016a, Government Accountability Office 2018, Government Accountability Office 2016, O'Donnell et al. 2020). Some stakeholders believe that such a bidding program could also be implemented for laboratory tests.

The Congress mandated a competitive bidding demonstration project for clinical laboratory tests in the Medicare Prescription Drug, Improvement, and

Modernization Act of 2003. The law required CMS to conduct a demonstration project on the application of competitive bidding for clinical laboratory tests that would otherwise be paid under the Medicare Part B clinical laboratory fee schedule. CMS designed a demonstration to determine whether competitive bidding could be used to provide clinical laboratory tests at rates below current Medicare payment rates while maintaining quality and access to care. A U.S. district court granted an injunction blocking implementation of the first demonstration project scheduled to take place in the San Diego area after local laboratories alleged that the demonstration would result in substantial economic harm (Congressional Research Service 2008). The Medicare Improvements for Patients and Providers Act of 2008 eliminated the competitive bidding project. Therefore, while a competitive bidding demonstration for laboratory tests has been explored, the concept has not yet been actually tested in Medicare.

Proponents of competitive bidding suggest that many laboratory tests are highly automated and largely undifferentiated products that are suitable for competitive bidding. Further, they note that, in markets with many suppliers, competitive bidding has

(continued next page)

outpatient laboratories were underrepresented in the data. We therefore analyzed FAIR Health data and data from a large, national preferred provider organization to explore whether the physician-office and hospital outpatient laboratory rates reported to CMS were representative of the broader private-payer market for physician-office and hospital outpatient laboratory tests.

In each of the two alternative sources of private-payer data, physician-office laboratories' payment rates were lower (relative to independent laboratories) than those reported to CMS. For example, in one database, we found that, among the top 100 CLFS laboratory tests in 2016, physician-office

laboratories were paid rates 38 percent higher than rates paid to independent laboratories, a difference that was slightly smaller than the 53 percent difference between rates paid to physician-office laboratories relative to independent laboratories in CMS's data.

The hospital outpatient laboratory payment rates reported to CMS in the first round of data collection may be representative of private-payer rates paid to hospital outreach laboratories but might be lower than the rates paid to all hospital outpatient laboratories in the private market. The small number of hospital outpatient laboratories that reported data to CMS in the first round of

Alternative methods for setting Medicare payment rates for laboratory tests (cont.)

a demonstrated history of driving down costs for the Medicare program and beneficiaries.

Opponents of competitive bidding for laboratory tests object to the characterization of laboratory tests as undifferentiated commodities. In contrast, they suggest that laboratory tests are not suited for competitive bidding precisely because they are highly specialized services. Further, they claim that competitive bidding would limit the number of laboratories serving the community and negatively impact access to care.

Still others suggest that setting Medicare rates based on private-payer rates, as CMS currently does, is one way to harness the benefits of competition without implementing a bidding system in Medicare. While not a formal bidding system, private payers essentially require laboratories to engage in a passive form of bidding when laboratories negotiate prices for tests and network coverage. In that vein, the first round of competitive bidding for DME lowered Medicare rates to be more similar to commercial rates obtained through price negotiations (Newman et al. 2017). So, while competitive bidding may produce larger savings than relying on private-payer rates, relying on private-payer rates may achieve a substantial amount of the cost savings without having to design a complex bidding system.

Other stakeholders have suggested that CMS could use third-party private-payer databases to collect private-payer rates for laboratory tests rather than having laboratories report rates. Databases of private-payer claims, such as FAIR Health and the Health Care Cost Institute, could inform CMS's rate-setting process. Private-payer databases are useful tools and allow many stakeholders, including academic researchers, the Commission, and others, to more fully understand how health care is delivered through private plans. However, relying on such databases as a means to set payment rates has some potential drawbacks. For example, CMS has no authority to compel payers to submit data to these private-payer databases, so payers may choose not to submit data if it is not beneficial to them. Additionally, CMS would have limited ability to ensure the quality of the data or that the content of the data is uniquely tailored to the needs of the program. For example, in the second round of data reporting, CMS specifically designed a reporting pathway to receive data from a specific type of hospital laboratory—hospital outreach laboratories. If Medicare were reliant on private-payer databases to set rates, it is unclear whether such customizations would be possible in all cases. ■

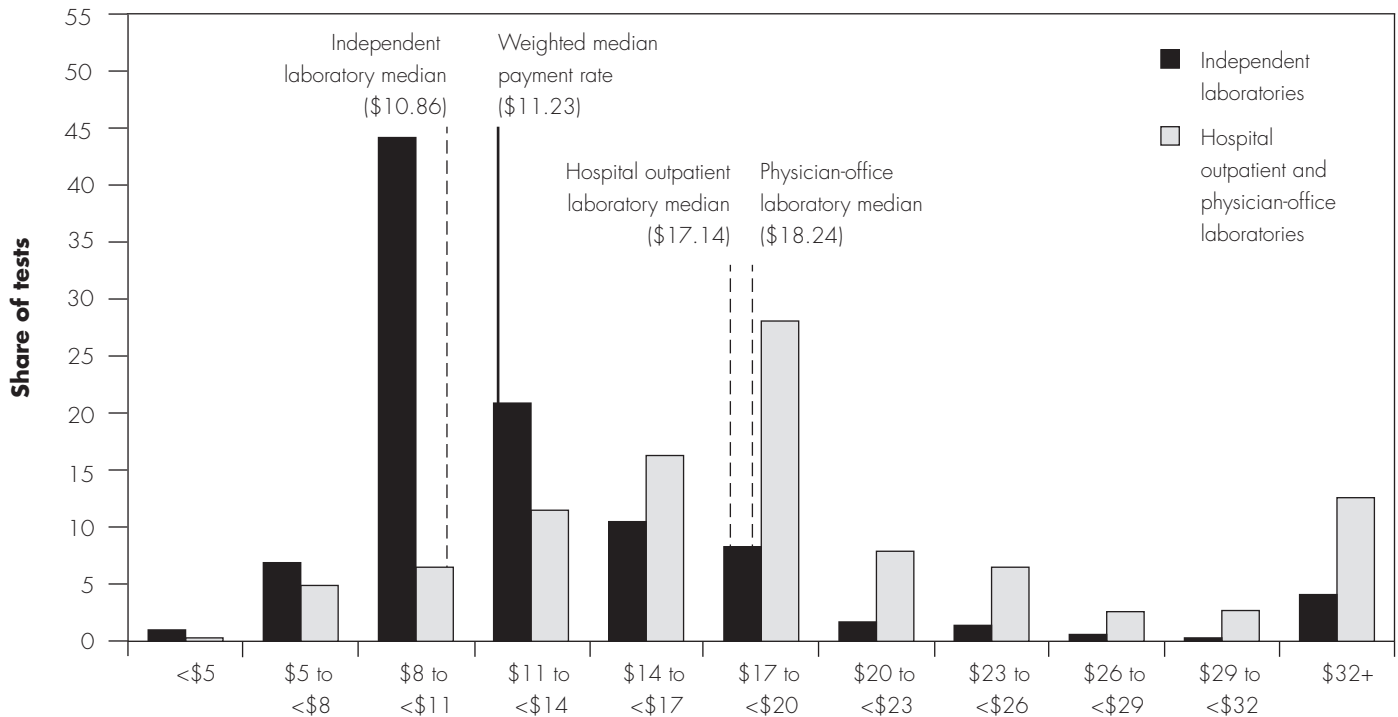
reporting are likely somewhat unique: Each of them billed under their own NPI and likely acted as hospital outreach laboratories. Our conversations with private payers suggest that they prefer (when possible) to negotiate rates for hospital outreach tests separately from hospitals' other lines of business in order to negotiate lower payment rates for outreach tests than for tests performed on hospital patients. In our two other private-payer databases, we found that, among the top 100 CLFS tests in 2016, hospital outpatient laboratories were paid private-payer rates that were, on average, 116 percent (according to one database) and 331 percent (according to the other database) higher than the rates paid to independent laboratories. Therefore, the data reported to CMS might be a reasonable approximation of

private-payer rates paid to hospital outreach laboratories, but the rates are likely lower than private-payer rates paid for all separately payable hospital outpatient laboratory tests.

Given these findings, we relied on the private-payer rates laboratories reported to CMS in order to simulate the effects of collecting private-payer rates from a representative sample of laboratories. Also, given the uncertainty surrounding private-payer rates for hospital outpatient laboratories, we simulated the combined effects of collecting private-payer rates from a representative sample of all laboratories and hospital outpatient laboratories reporting private-payer rates that

**FIGURE
9-3**

In 2016, independent laboratories had lower median private-payer rates than hospital outpatient and physician-office laboratories for lipid panels, but private-payer payment rates varied substantially within laboratory types



Note: The share of tests furnished within each payment rate range is calculated separately for (1) independent laboratories and (2) hospital outpatient and physician-office laboratories. The figure combines data for hospital outpatient and physician-office laboratories for simplicity; their weighted median private-payer rates are calculated separately. Figure represents data on lipid panel tests (HCPCS code 80061).

Source: MedPAC analysis of private-payer laboratory rates, carrier file, and outpatient file data from CMS.

were 50 percent higher than the rates hospital outpatient laboratories reported in the first round of data reporting.³²

We ran four simulations on the 100 laboratory tests with the highest Medicare CLFS spending in 2016 to estimate the effect of setting Medicare's payment rates on a representative sample of laboratories. We used varying assumptions regarding private-payer payment rates and volume to demonstrate the potential effects of collecting data from different types of laboratories.³³ (See text box, pp. 326–327, for more details on our simulation methodology.)

We found that Medicare spending on the top 100 CLFS tests could increase by 10 percent if Medicare payment

rates were based on (1) the payment rates laboratories reported to CMS in the first round of data reporting and (2) a volume of tests for independent, physician-office, and hospital outreach laboratories that was equal to the share of tests furnished by these types of laboratories under Medicare's CLFS. Using the same volume assumptions but assuming that hospitals' private-payer rates were 50 percent higher than those reported to CMS in the first round of data reporting, we found that Medicare spending could increase by 13 percent for the top 100 tests.

We ran two additional simulations with the same payment rate assumptions but assumed a volume of tests for independent, physician-office, and all hospital outpatient laboratories (not just outreach laboratories)

that was equal to the share of tests furnished by these types of laboratories under Medicare's CLFS. Under these assumptions, we found that Medicare spending could increase by 15 percent and 24 percent, respectively, relative to the spending that would result from CMS's current rates.

Basing CLFS rates on a representative sample of private-payer rates may be undesirable in certain circumstances

Medicare should set payment rates that ensure beneficiary access to high-quality laboratory tests while maintaining incentives for laboratories to be efficient to make the best use of taxpayers' and beneficiaries' resources. To do so, Medicare should ensure that payment rates are sufficient to cover the costs of relatively efficient laboratories but should not increase rates solely to accommodate laboratories that receive high private-payer rates. These principles suggest policymakers should consider not basing Medicare's laboratory payment rates on a representative sample of private-payer rates in two circumstances—for routine laboratory tests when higher private-payer rates likely reflect providers' negotiating leverage rather than the costs of furnishing the tests and for new, high-cost tests for which private payers may have a limited ability to negotiate rates effectively.

For many routine tests, the transition to private payer-based rates has substantially reduced Medicare's payment rates. Some stakeholders have argued that Medicare's rates are now too low and should reflect private-payer rates from a broader array of laboratories in the future. However, our analyses of the effects of collecting private-payer rates from a representative sample of laboratories suggest policymakers should be cautious about incorporating private-payer rates for certain types of laboratories. Based on our analyses of multiple private-payer databases and conversations with industry stakeholders, we believe that the higher rates hospital outpatient and physician-office laboratories are paid for laboratory tests often stem from their enhanced negotiating leverage with private payers based on their dominant market positions for nonlaboratory services, such as inpatient hospital services. Incorporating these higher rates likely does not further the cause of determining appropriate payment rates for laboratory tests and may expose the Medicare program to potentially large spending

increases. This caution is especially warranted for private-payer rates associated with hospital outpatient laboratories that do not function as outreach laboratories, as our analyses suggest that their private-payer rates might far exceed the rates hospitals reported in the first round of data reporting.³⁴

Setting Medicare payment rates to cover the costs of relatively efficient providers will likely ensure broad access to laboratory tests. Indeed, through the first two years of setting Medicare rates based on private-payer data, the use of laboratory tests remained relatively unchanged among Medicare FFS beneficiaries, suggesting stable access. As the transition to private payer-based rates continues, policymakers should monitor access to laboratory tests both in the aggregate and for particular areas of concern, such as among rural beneficiaries or for particular types of tests.³⁵ To the extent potential access issues arise, policymakers should consider implementing targeted payment adjustments instead of incorporating private-payer data from all laboratories that are paid high private-payer rates.³⁶ As our analyses show, incorporating private-payer data from such laboratories could substantially increase Medicare spending but would still result in setting payment rates far below the private-payer rates paid to those laboratories. Thus, incorporating more data from laboratories that receive high private-payer rates could result in Medicare overpaying more efficient laboratories while still paying hospital outpatient and physician-office laboratories less than the rates that they could negotiate with payers based on their market power. In contrast, targeted payment adjustments could help ensure access in particular circumstances without overpaying for all laboratory tests.

For new, high-cost tests, a complete reliance on private-payer data might produce suboptimal Medicare payment rates. Such tests are often innovative and create real benefits for beneficiaries, but private payers may have a limited ability to negotiate rates effectively for them. When PAMA was passed in 2014, nearly all laboratory tests billed under Medicare were relatively low-cost, routine tests. Given that mix of tests, relying on private-payer rates was expected to reduce (and has reduced) Medicare's payment rates for many laboratory tests. However, in the years since PAMA was enacted, new laboratory tests have been introduced that are typically more expensive, complex, and proprietary than more established tests. The result is that Medicare's framework for setting laboratory payment rates was designed at a time when the type of

Methodology for simulating the effects of basing CLFS payment rates on a representative sample of laboratories

To estimate the effect of setting Medicare's payment rates on a representative sample of laboratories, we used the private-payer data reported to CMS during the first round of data reporting to establish the distribution of private-payer laboratory rates. We used Medicare clinical laboratory fee schedule (CLFS) laboratory claims data to estimate the volume of tests independent, physician-office, and hospital outpatient laboratories would have furnished if they had performed the same share of private-payer tests as they did under Medicare's CLFS. Specifically, we took the following steps:

Estimating volume

- We summarized the volume of private-payer tests submitted for each Healthcare Common Procedure Coding System (HCPCS) code by the type of laboratory. We classified each laboratory in the private-payer data as an independent, physician-office, or hospital outpatient laboratory by merging CMS's private-payer data with Medicare CLFS claims data and characterizing a laboratory based on the place of service (for carrier file claims) or type of bill (for outpatient claims) associated with a plurality of the laboratory's Medicare CLFS spending.
- Because we found that laboratories that submitted private-payer laboratory data to CMS accounted for 84.5 percent of CLFS volume associated with independent laboratories in 2016, we multiplied the volume of private-payer data reported by independent laboratories by $(1/0.845)$ for each HCPCS code to arrive at an imputed private-payer volume for independent laboratories.³⁷
- For each HCPCS code, we then divided the imputed private-payer volume for independent laboratories by the share of Medicare CLFS volume independent labs furnished in 2016. (Thus, if independent laboratories reported, for example, 500 units of a given test in the private-payer data and independent laboratories furnished

50 percent of those tests under Medicare, we assumed that the total private-payer volume for that HCPCS code should be 1,000—or $500/0.5$.)

- We then multiplied the imputed total private-payer volume for each HCPCS code by the share of volume each type of laboratory furnished under Medicare in 2016. This figure represents the total private-payer volume each type of laboratory would have reported if the share of private-payer volume they furnished were equal to the share of tests they furnished under Medicare.
- To determine the volume that we needed to add to the private-payer data already reported to CMS, we subtracted the volume of tests that was actually reported in the first round of data reporting from the volume each type of laboratory should have reported if they had furnished the same share of tests for private payers as they did for Medicare (calculated in the previous step).

Estimating the distribution of payment rates

After we established the amount of volume to be added to the CMS private-payer data, we determined what private-payer rates we should associate with the additional volume. The effect on the weighted median payment rate is sensitive to the distribution of payment rates (not just what the median is). So, to impute payment rates, we relied on the distribution of private-payer rates (by type of laboratory and HCPCS code) that was reported to CMS. Specifically, we took the following steps:

- For each combination of HCPCS code and laboratory type, we calculated 99 price points based on every percentile in the distribution of reported private-payer rates (i.e., each percentile from the 1st to the 99th became a price point).³⁸ This calculation resulted in just under 3,000 prices—99 price points multiplied by 100 HCPCS codes multiplied by 3 laboratory types.³⁹

(continued next page)

Methodology for simulating the effects of basing CLFS payment rates on a representative sample of laboratories (cont.)

- We then divided the volume to be added evenly among the price points. For example, if we found that we needed to add 198 units for a given combination of a HCPCS code and laboratory type, we added 2 units (198/99) to each of our price points to mimic the distribution of the data submitted to CMS.
- We then stacked the data that CMS received with the added volume (and payment rates) and recalculated a volume-weighted median for each of the 100 HCPCS codes we studied.

Effect on Medicare spending

To determine the effect on spending of the recalculated weighted median payment rates, we multiplied actual 2018 Medicare CLFS utilization

by the CMS-established weighted median payment rate (without accounting for the phase-in of payment rate reductions) to determine a baseline of spending. We then multiplied the same utilization figures by our recalculated weighted median payment rates to estimate spending using our alternative rates. We calculated the difference between these two spending amounts to estimate the net effect on Medicare spending.

We ran the above steps four separate times with slight variations in assumptions regarding (1) whether to include all CLFS tests furnished by hospital outpatient laboratories or only those furnished by hospital outreach laboratories (type of bill 14x) and (2) the payment rates reported by hospital outpatient laboratories (Table 9-11). ■

**TABLE
9-11**

Basing Medicare payment rates on a representative sample of laboratories would increase CLFS spending, but the magnitude of the increase varies based on certain assumptions

Simulation number	Volume assumptions	Payment rate assumptions	Estimated effect on Medicare spending in 2018 (relative to fully phased-in weighted median payment rates)
1	Private-payer volume matches share of Medicare CLFS tests furnished by independent, physician-office, and hospital outreach laboratories (type of bill 14x)	Payment rates match rates reported to CMS in the first round of data reporting	10% increase
2		Payment rates match rates reported to CMS for independent and physician-office laboratories; hospital outpatient laboratory rates 50% higher than rates reported to CMS	13% increase
3	Private-payer volume matches share of Medicare CLFS tests furnished by independent, physician-office, and all CLFS hospital outpatient laboratories	Payment rates match rates reported to CMS in the first round of data reporting	15% increase
4		Payment rates match rates reported to CMS for independent and physician-office laboratories; hospital outpatient laboratory rates 50% higher than rates reported to CMS	24% increase

Note: CLFS (clinical laboratory fee schedule). To estimate the effect of 50 percent higher hospital outpatient private-payer rates, we multiplied each of our 99 hospital price points by 1.5.

Source: MedPAC analysis of private-payer laboratory rates, carrier file, and outpatient file data from CMS.

tests that are now driving the growth in Medicare spending largely did not exist or were in their infancy. While the market for these newly developed tests is still nascent and changing rapidly, our analyses suggest that private payers may not be able to negotiate lower prices for newer, more

expensive laboratory tests in the same manner they do for more routine tests. In the future, the Commission will explore ways to improve how Medicare sets prices for new high-cost technologies, including certain pharmaceuticals, devices, and laboratory tests. ■

Endnotes

- 1 CMS regulates all laboratory testing (except research) performed on humans in the U.S. through CLIA (Centers for Medicare & Medicaid Services 2020a). The objective of the CLIA program is to ensure quality laboratory testing.
- 2 One notable exception is that critical access hospitals are paid on a cost basis for many laboratory tests.
- 3 National limitation amounts were initially set at 115 percent of the median of all local fee schedule amounts, but the Congress incrementally lowered this cap to generate savings (Office of Inspector General 2009). Since 1998, national limitation amounts were set at 74 percent of the median of all local fee schedule amounts (or 100 percent of the median for new tests performed on or after 2001).
- 4 The Office of Inspector General found that 89 percent of Medicare-covered laboratory tests were paid at national limitation amounts in 2007 (Office of Inspector General 2009).
- 5 Even after the Protecting Access to Medicare Act of 2014 was implemented, CMS has used similar crosswalking and gapfilling processes to set payment rates for new tests until private-payer data are collected.
- 6 In addition to the Affordable Care Act's reductions of 1.75 percent per year from 2011 to 2015, the Middle Class Tax Relief and Job Creation Act of 2012 reduced CLFS payment rates by 2 percent in 2013 (Public Law 112–96).
- 7 If the actual list charge of a new ADLT is greater than 130 percent of the weighted median private-payer rate, CMS recoups the difference between the actual list charge and 130 percent of the weighted median (Centers for Medicare & Medicaid Services 2018).
- 8 CMS chose to implement a low-expenditure threshold instead of a low-volume threshold because some laboratories account for substantial CLFS spending by performing a relatively low volume of high-cost laboratory tests.
- 9 This definition means that a laboratory must report each unique payment rate for each HCPCS code and its associated volume. For example, if a laboratory were paid for 1,500 tests associated with one HCPCS code during the data collection period and the laboratory were paid \$10 per test for the first 1,000 tests and \$9 per test thereafter, the laboratory would report two rows of data for the same HCPCS code—1,000 tests at \$10 each and 500 tests at \$9 each. For the purpose of data reporting, PAMA defined “private payers” as a health insurance issuer as defined in Section 2791(b)(2) of the Public Health Service Act; group health plan as defined in Section 2791(a)(1) of the Public Health Service Act; Medicare Advantage plan; or Medicaid managed care organization.
- 10 If no private-payer data are reported, CMS uses crosswalking or gapfilling to set payment rates. These processes are also used for new HCPCS codes that are introduced between data collection periods.
- 11 Similarly, in the first round of data reporting, CMS collected private-payer data from laboratories that accounted for 45 percent of Medicare CLFS volume in 2016. To calculate these statistics, we merged private-payer data reported to CMS with Medicare CLFS claims data based on national provider identifiers.
- 12 Laboratories also had to attest to the accuracy of the information they submitted. CMS did not substantially edit or trim the data to account for outliers. CMS did make two trims—removing data (1) where the reported payment rates were zero and (2) from two taxpayer identification numbers (which reported for their component NPIs) that reported total spending instead of payment rates.
- 13 In contrast, other laboratories reported data when they likely were not required to do so. For example, about 37 percent of the laboratories that reported may have been below the low-expenditure threshold (Centers for Medicare & Medicaid Services 2017).
- 14 This estimate applies only to tests billed under the CLFS in 2017 and does not include tests that were introduced after 2017.
- 15 For example, a hospital that bills Medicare for a service covered under the outpatient prospective payment system would typically bill Medicare using a 13x type of bill.
- 16 In other words, both the numerator and denominator should consist almost entirely of the same laboratory revenues.
- 17 We relied on average payment rates in 2017 instead of national limitation amounts because using national limitation amounts may overstate the magnitude of payment rate reductions because some Medicare administrative contractors paid laboratories rates below national limitation amounts for some tests. Our estimate excludes laboratory tests that did not have Medicare CLFS utilization in 2017, a weighted median private-payer rate, and other laboratory tests and related services not priced based on private-payer data, including venipuncture, travel expenses, and tests billed under “unlisted” HCPCS codes.

- 18 We also examined alternative measures of utilization—number of claims, claim lines, and beneficiaries who received at least one CLFS test in a given year. All of these measures suggest that utilization of CLFS laboratory tests remained relatively unchanged from 2017 to 2019. For example, 82 percent of Part B FFS beneficiaries received at least one CLFS laboratory test in 2017 and 2019. From 2017 to 2019, the aggregate number of CLFS laboratory tests billed decreased by 0.7 percent, from 431 million to 428 million. However, over the same period, the number of Part B FFS beneficiaries decreased by 1.4 percent, from 33.6 million to 33.2 million (Boards of Trustees 2020).
- 19 While the use of these new, high-cost tests increased rapidly (on a percentage basis), their (absolute) level of utilization remained relatively low. Therefore, their increased use did not substantially increase overall CLFS laboratory test utilization.
- 20 Throughout this report, we present claims data processed through June 3, 2020. While substantially complete, 2019 data could be slightly less complete than prior years' data.
- 21 The extent to which CMS has the legal authority to conduct a survey of laboratories to set Medicare CLFS rates rather than the process they have established is beyond the scope of this report.
- 22 We calculated Medicare's payment per test in 2017 (\$11.16) by dividing total Medicare spending by the total number of tests billed. The 2018 payment per test (\$13.04) is the national payment rate.
- 23 In MBS, for each HCPCS code in each sampling frame (i.e., physician-office, independent, or hospital outreach laboratory), RTI calculated the HCPCS code-specific probability of selection for a laboratory. For each laboratory, the MBS probability of selection would be the largest HCPCS code-specific probability of selection from all the HCPCS codes for which the laboratory has reported testing volume. The expected sample size for all HCPCS codes can then be calculated as the sum of the MBS probabilities of selection.
- 24 Some stakeholders were concerned that, for panels with separate HCPCS codes, laboratories could increase their Medicare payments substantially by separately billing for the components of panel tests instead of using the panel HCPCS codes. However, our analyses suggest that laboratories did not substantially change their billing behavior from 2017 to 2019 to take advantage of this potential "loophole." CMS has also clarified that some unbundling activities are impermissible. Specifically, CMS has stated that if a laboratory performs all tests included in a panel with a separate HCPCS code, the laboratory shall report the HCPCS code for the panel and not the component tests (Centers for Medicare & Medicaid Services 2020b, Centers for Medicare & Medicaid Services 2019a).
- 25 RTI also calculated another measure of empirical bias using the difference between the median payment rate weighted by testing volume from the sample and that from the sampling frame divided by the weighted median payment rate from the sampling frame. The full results are available in the contractor report.
- 26 These 10 HCPCS codes included three of the five top codes in terms of testing volume in 2018 and codes with large differences between the weighted median price for independent and hospital outreach laboratories and between independent and physician-office laboratories.
- 27 The choice of requiring a minimum of 10, 20, or 30 laboratories was a judgmental decision. RTI did not test larger minimum sample sizes since the empirical bias they found was already minimal.
- 28 We present revenue and operating profits from LabCorp's laboratory diagnostics business and exclude information relating to the company's drug development business.
- 29 For tests outside the top 100, certain types of laboratories were more likely not to furnish a particular test or to furnish a low volume of the test. The inclusion of low-volume tests often led to improbable results (e.g., hospital outpatient laboratories being paid 300 times the rate of independent laboratories). After constructing various rules to exclude outliers, we found that the ratio of rates paid to physician-office laboratories and hospital outpatient laboratories relative to independent laboratories was similar among the top 100 CLFS tests compared with all CLFS tests. Therefore, for simplicity, we present the results for only the top 100 CLFS tests.
- 30 These results are weighted based on 2016 Medicare CLFS spending. We determined whether a laboratory was an independent, physician-office, or hospital outpatient laboratory by merging CMS's private-payer data with CLFS claims data and by characterizing a laboratory based on the place of service (for carrier file claims) or type of bill (for outpatient claims) associated with a plurality of the laboratory's Medicare CLFS spending.
- 31 For example, we divided all independent laboratories into two groups—large independent laboratories and all other independent laboratories—and found that all other independent laboratories were paid private-payer rates that were, on average, 18 percent higher than the rates paid to large independent laboratories for the top 100 CLFS tests in 2016.

- 32 We chose to simulate the effects of increasing hospital outpatient rates by 50 percent because doing so makes the rates reported to CMS closer to the range of hospital outpatient rates we observed in private-payer databases. For example, in the data reported to CMS, we found that hospital outpatient laboratories were paid 45 percent higher rates than independent laboratories, on average. Increasing the hospital outpatient rates that were reported to CMS by 50 percent results in the hospital outpatient rates being just over double the rates of independent laboratories (i.e., $1.45 \times 1.50 = 2.18$).
- 33 These estimates are limited to the top 100 CLFS tests in 2016 and do not reflect effects on total CLFS spending. In addition, these estimates are not intended to reflect the likely effects of the second round of data reporting.
- 34 Hospital outreach and physician-office laboratories also likely benefit from negotiating leverage associated with nonlaboratory services. However, some private payers appear to be able to negotiate for hospital outreach laboratory tests separately from all other hospital services, and physician groups tend to have less negotiating leverage with private payers relative to hospitals. These facts may help explain why private-payer rates for tests furnished by these types of laboratories substantially exceeded independent laboratory rates but were below the extremely high rates received by some hospital outpatient laboratories.
- 35 Any complete analysis of rural beneficiaries' access to laboratory tests should account for the fact that a higher share of rural beneficiaries' laboratory tests are paid on a cost basis through critical access hospitals and not under the CLFS. For example, in 2018, we found that rural beneficiaries had, on average, fewer tests billed under the CLFS compared with urban beneficiaries (10.1 vs. 13.6 tests per Medicare FFS beneficiary). However, after incorporating tests billed through critical access hospitals, rural and urban beneficiaries' use of clinical laboratory tests appeared more similar.
- 36 CMS may not currently have the statutory authority to make such adjustments, so additional legislative authority may be needed.
- 37 We also reran the simulation without this step (that is, assuming independent laboratories reported 100 percent of their private-payer data) and found similar results.
- 38 When calculating the percentiles, we weighted based on reported private-payer volume.
- 39 We added additional independent laboratory volume to our simulations. For this added volume, we assumed that the price distribution was the same as all independent laboratories. To the extent that large (lower priced) independent laboratories were more likely to report their private-payer rates than all independent laboratories, this assumption is likely conservative.

References

American Clinical Laboratory Association. 2017. ACLA expresses serious concerns with proposed PAMA Medicare payment rates for clinical laboratory tests; renews call for delay and reform. <https://www.acla.com/acla-expresses-serious-concerns-with-proposed-pama-medicare-payment-rates-for-clinical-laboratory-tests-renews-call-for-delay-and-reform/>.

American Clinical Laboratory Association. 2014. American Clinical Laboratory Association supports Senate passage of provisions for clinical laboratory fee schedule in SGR extension legislation. <https://www.acla.com/american-clinical-laboratory-association-supports-senate-passage-of-provisions-for-clinical-laboratory-fee-schedule-in-sgr-extension-legislation/>.

Bannow, T. 2021. Hospitals fight UnitedHealthcare policies over lab test, specialty drug payments. *Modern Healthcare*, February 5.

Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2020. *2020 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*. Washington, DC: Boards of Trustees.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021. Advanced diagnostic laboratory tests under the Medicare CLFS. <https://www.cms.gov/files/document/advanced-diagnostic-laboratory-tests-under-medicare-clfs.pdf>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020a. Clinical Laboratory Improvement Amendments (CLIA). <https://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020b. *National correct coding initiative policy manual for Medicare services*. Baltimore, MD: CMS. <https://www.cms.gov/Medicare/Coding/NationalCorrectCodInitEd/index>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019a. *Calendar year (CY) 2019 annual update for clinical laboratory fee schedule and laboratory services subject to reasonable charge payment*. MLN Matters number MM11076. Baltimore, MD: CMS.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2019b. *Medicare Part B clinical laboratory fee schedule: Revised information for laboratories on collecting and reporting data for the private payor rate-based payment system*. MLN Matters number SE19006 (revised). Baltimore, MD: CMS.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2018. Medicare Part B clinical laboratory fee schedule: Guidance for laboratories on advanced diagnostic laboratory test. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ClinicalLabFeeSched/Downloads/Guidance-for-Laboratories-on-ADLTs.pdf>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2017. Summary of data reporting for the Medicare clinical laboratory fee schedule (CLFS) private payor rate-based payment system. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ClinicalLabFeeSched/Downloads/CY2018-CLFS-Payment-System-Summary-Data.pdf>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2016a. Competitive bidding program continues to maintain access and quality while helping to save Medicare millions. Fact sheet. <https://www.cms.gov/newsroom/fact-sheets/competitive-bidding-program-continues-maintain-access-and-quality-while-helping-save-medicare>.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2016b. Medicare program; Medicare clinical diagnostic laboratory tests payment system. *Federal Register* 81, no. 121 (June 23): 41036–41101.

Congressional Budget Office. 2014. *Cost estimate for the Protecting Access to Medicare Act of 2014*. Washington, DC: CBO.

Congressional Research Service. 2008. *Medicare clinical laboratories competitive bidding demonstration*. Washington, DC: CRS.

Department of Justice. 2019. Federal law enforcement action involving fraudulent genetic testing results in charges against 35 individuals responsible for over \$2.1 billion in losses in one of the largest health care fraud schemes ever charged. News release. September 27. <https://www.justice.gov/opa/pr/federal-law-enforcement-action-involving-fraudulent-genetic-testing-results-charges-against>.

Government Accountability Office. 2018. *Information on the first year of nationwide reduced payment rates for durable medical equipment*. Washington, DC: GAO.

Government Accountability Office. 2016. *CMS's round 2 durable medical equipment and national mail-order diabetes testing supplies competitive bidding programs*. Washington, DC: GAO.

Laboratory Corporation of America. 2021a. Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2020.

Laboratory Corporation of America. 2021b. Form 8-K: Current report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. February 11.

Laboratory Corporation of America. 2020a. LabCorp announces 2020 third quarter results. October 27.

Laboratory Corporation of America. 2020b. Q1 2020 earnings call transcript. April 29.

Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Newman, D., E. Barrette, and K. McGraves-Lloyd. 2017. Medicare competitive bidding program realized price savings for durable medical equipment purchases. *Health Affairs* 36, no. 8 (August 1): 1367–1375.

O'Donnell, B., E. Rollins, and J. Mathews. 2020. Competitive bidding reduced Medicare spending on diabetes testing supplies without negatively affecting beneficiary outcomes. *Health Affairs* blog. April 8. <https://www.healthaffairs.org/doi/10.1377/hblog20200326.122054/full/>.

Office of Inspector General, Department of Health and Human Services. 2018. *Setting Medicare payment rates for clinical diagnostic laboratory tests: Strategies to ensure data quality*. Washington, DC: OIG.

Office of Inspector General, Department of Health and Human Services. 2013. *Comparing lab test payment rates: Medicare could achieve substantial savings*. Washington, DC: OIG.

Office of Inspector General, Department of Health and Human Services. 2009. *Variation in the clinical laboratory fee schedule*. Washington, DC: OIG.

OPKO Health Inc. 2021. Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2020.

Phillips, K., and P. Deverka. 2019. The emerging use by commercial payers of third-party lab benefit managers for genetic testing. *Health Affairs* blog. October 23. <https://www.healthaffairs.org/doi/10.1377/hblog20191021.563154/full/>.

Quest Diagnostics. 2021a. Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2020.

Quest Diagnostics. 2021b. Form 8-K: current report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. February 4.

Quest Diagnostics. 2020. Q3 2020 earnings call transcript. October 22.

RTI International. 2021. *Evaluating the CMS methodology for setting private payer based payment rates for clinical lab tests: Final report*. Research Triangle Park, NC: RTI.

C H A P T E R

10

**Mandated report:
Relationship between
clinician services and
other Medicare services**

Mandated report: Relationship between clinician services and other Medicare services

Chapter summary

Section 101(a)(3) of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) directs the Commission to submit two reports to the Congress on the relationship between use of and expenditures for services provided by physicians and other health professionals (whom we refer to as “clinicians”) and total service use and expenditures under Part A, Part B, and Part D of Medicare.

Submitted on June 15, 2017, our initial report had two parts:

- An evaluation of the relationship between beneficiaries’ use of and Medicare program spending on clinician services and all services covered under Part A and Part B of Medicare.
- An evaluation of the relationship between beneficiaries’ use of and Medicare program spending on clinician services and use of and spending on prescription drugs (as measured by gross drug spending) covered under Medicare Part D.

This final report updates the analyses conducted for the initial report using more recent years of data.

Because the legislation directs us to evaluate Medicare Part A, Part B, and Part D but not Part C (Medicare Advantage), we report on service use and

In this chapter

- Background
- Evaluating spending on and use of clinician services relative to all Part A and Part B services
- Relationship between spending on and use of clinician services and Part D drugs
- Implications of our findings

spending for the Medicare fee-for-service (FFS) population only. A finding of a positive correlation between clinician services and all other Part A, Part B, and Part D services would be consistent with the belief that the services are complements (which means that, when considering two services, greater use of one service correlates with greater use of the other service). Alternately, a negative correlation between clinician services and all other services covered under Part A, Part B, and Part D of Medicare would be consistent with the belief that the services are substitutes for each other.

We found that spending on clinician services as a share of Medicare spending on all Part A and Part B services decreased from 2013 through 2019, indicating that spending on clinician services grew at a slower rate than spending on all Part A and Part B services. However, we caution against finding a great deal of meaning in this result (which is based on raw, unadjusted expenditures): During this period, payment rates in the Medicare physician fee schedule were raised at a lower rate than the payment rates in most other Medicare payment systems.

We assert that, in determining whether a given service is a complement to or a substitute for clinician services, comparisons of service use are more meaningful than comparisons of spending. We base this assertion on the fact that unadjusted Medicare spending reflects various price and payment adjustments, which distort any direct relationship between the use of clinician and other services.

We estimated per capita service use in 2013 and 2018 for geographic areas based on metropolitan statistical areas (MSAs). We estimated service use for each geographic area by adjusting Medicare program spending for regional differences in Medicare prices and for beneficiary differences in demographics and health status.

Our analysis of service use found the following:

- In the aggregate, from 2013 to 2018, use of clinician services as a share of all Part A and Part B services slightly declined from 24.3 percent to 23.8 percent.
- For each of the geographic areas in our analysis, we estimated the percentage change from 2013 to 2018 in per capita use of clinician services and per capita use of nonclinician Part A and Part B services (total Part A and Part B services net of clinician services). We found a weak (almost neutral) relationship between percentage change in clinician services and percentage change in nonclinician Part A and Part B services.

- In 2018, among geographic units in our analysis, there was a weak negative correlation between per capita use of clinician services and per capita use of nonclinician Part A and Part B services. This finding implies that clinician services and other Part A and Part B services are only weak substitutes.

Our analysis also showed that from 2013 through 2018, Medicare spending on services covered under the physician fee schedule remained flat while spending on drugs covered under the Part D benefit grew by 26 percent. Nearly all of the growth in drug spending was due to higher prices rather than an increase in the number of prescriptions filled by beneficiaries, a change from the 2008 through 2013 period when spending growth mostly reflected a greater number of prescriptions filled.

For a subset of FFS beneficiaries who receive their drug coverage through the Part D program, we used a regression-based method to examine the relationship between the rate of growth and level of clinician service use and drug use (drug spending adjusted for demographics and health status) across the MSA-based geographic areas. For changes in service use from 2013 through 2018, clinician service use was positively correlated with the area's change in drug use. However, the regression model explained only 8 percent of the variation, suggesting a weak relationship between the growth rates in clinician service use and drug use. There was a modest positive correlation between the levels of clinician service and Part D drug use in 2018, consistent with our previous analysis.

In summary, our findings suggest that clinician services and other Part A and Part B services are weak substitutes. As for the relationship between use of clinician services and use of Part D drugs, it is not surprising to find a modest complementary relationship, given that most prescriptions are written by clinicians during office visits.

There are a few caveats in interpreting these findings. First, findings of correlation (or no correlation) of service use among different sectors do not prove or disprove causality. Second, our results are based on aggregate trends and do not represent any individual circumstances or specific geographic areas. An examination at a more disaggregated level may reveal different relationships from those observed at the aggregate level. ■

Mandate: Section 101(a)(3) of the Medicare Access and CHIP Reauthorization Act of 2015

(3) MEDPAC REPORTS.—

(A) INITIAL REPORT.—Not later than July 1, 2017, the Medicare Payment Advisory Commission shall submit to Congress a report on the relationship between—

(i) physician and other health professional utilization and expenditures (and the rate of increase of such utilization and expenditures) of items and services for which payment is made under section 1848 of the Social Security Act (42 U.S.C. 1395w–4); and

(ii) total utilization and expenditures (and the rate of increase of such utilization and expenditures) under parts A, B, and D of title

XVIII of such Act. This report shall include a [method] to describe the relationship and the impact of changes in physician and other health professional practice and service ordering patterns on total utilization and expenditures under parts A, B, and D of such title.

(B) FINAL REPORT.—Not later than July 1, 2021, the Medicare Payment Advisory Commission shall submit to Congress a report on the relationship described in subparagraph (A), including the results determined from applying the [method] included in the report submitted under such subparagraph. ■

Background

Section 101(a)(3) of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) directs the Commission to submit a report to the Congress on the relationship between beneficiary use of and Medicare spending on services provided by physicians and other health professionals and total service use and Medicare spending under Part A, Part B, and Part D of Medicare. MACRA directed the Commission to submit an initial report no later than July 1, 2017, and a final report no later than July 1, 2021 (see text box). The Commission met the requirement to submit the initial report, publishing it in the June 2017 report to the Congress (Medicare Payment Advisory Commission 2017).

This chapter is intended to satisfy the MACRA requirement for the final report. This analysis has two broad parts. The first part assesses the relationship between Medicare spending on and use of (1) clinician services and (2) nonclinician services covered by Medicare Part A and Part B. The second part assesses the relationship between Medicare spending on and use of (1) clinician services and (2) Part D drugs. Section 101(a)(3) of MACRA specifies that we evaluate Part A, Part B, and Part D of Medicare but not Part C (Medicare Advantage).

Therefore, our analysis reports on service spending and use for the Medicare fee-for-service (FFS) population only. In the interest of brevity, throughout this report, we use the term *clinicians* to refer to physicians and other health professionals. Our analysis included the clinician services provided to all FFS beneficiaries in all settings. If a clinician was employed by a hospital or a health plan, that clinician's services were still included in our analysis.

Evaluating spending on and use of clinician services relative to all Part A and Part B services

Spending and service use are different measures. In this study, spending represents monetary outlays by the Medicare program. Service use reflects volume of services (how many units) and the intensity of those services (for example, long office visits have higher service use than short office visits; MRI scans are a more intense use of service than simple X-rays). We derived service use by adjusting spending amounts for regional differences in the prices that Medicare sets for Part A and Part B services and for differences in demographics and health status among beneficiaries.

**TABLE
10-1****Medicare spending on clinician services in FFS Medicare as a share of all Part A and Part B services fluctuated, 2009–2019**

Year	Clinician services (billions of dollars)	Part A and Part B services (billions of dollars)	Clinician services as a share of Part A and Part B services
2009	\$61.8	\$328.5	18.8%
2010	65.4	338.2	19.3
2011	68.6	350.6	19.6
2012	69.9	357.8	19.5
2013	69.5	361.5	19.2
2014	70.6	367.3	19.2
2015	70.2	374.8	18.7
2016	70.0	384.7	18.2
2017	70.1	391.8	17.9
2018	70.8	403.0	17.6
2019	73.5	414.0	17.8

Note: FFS (fee-for-service). “Medicare spending” is the amount spent by the Medicare program excluding beneficiaries’ cost sharing. The spending amounts are for services provided to FFS Medicare beneficiaries and exclude services provided to Medicare Advantage beneficiaries.

Source: Annual reports of the Boards of Trustees of the Medicare trust funds, 2019 and 2020.

Data and methods

Our analysis of the relationship between spending on and use of clinician services relative to all Part A and Part B services has two parts. In the first part, we evaluated the relationship between unadjusted Medicare spending on clinician services and unadjusted Medicare spending on all Part A and Part B services. For this part of the analysis, we used data from the Medicare Trustees’ annual reports on the status of the Medicare trust funds (Boards of Trustees 2020, Boards of Trustees 2019). We extracted data on the annual expenditures that Medicare made from 2009 through 2019 on clinician services and all services covered under Part A and Part B of Medicare for beneficiaries in FFS Medicare. We made no adjustments to these data.

In the second part of our Part A and Part B analysis, we evaluated service use. We used beneficiary-level program spending in FFS Medicare from the Master Beneficiary Summary Files (MBSFs) from 2013 and 2018 and claims data from the Medicare Provider Analysis and Review (MedPAR) files from 2013 and 2018. We analyzed these data at the national level and for the geographic areas based on metropolitan statistical areas (MSAs). For beneficiaries residing in MSAs, we used geographic areas that consisted of counties that are in the same state

and same MSA. For beneficiaries not residing in MSAs, we used each state’s counties that were not in MSAs. For example, the MSA for St. Louis, Missouri, has 15 counties. Eight are in Illinois, and seven are in Missouri. The eight Illinois counties formed one of our geographic areas, and the seven Missouri counties formed another geographic area. The counties in Missouri that are not in an MSA formed a statewide, nonmetropolitan geographic area. In total, our study defined 484 geographic areas.

We estimated service use at the national and geographic-area levels in 2013 and 2018 by adjusting Medicare expenditures for geographic differences in wages, special payments to hospitals and clinicians, and differences in beneficiaries’ demographics and health status. Medicare pays different prices in different locations to account for higher costs in one location compared with another. For example, wages for nurses are much higher in New York City than in Little Rock, Arkansas. Also, Medicare makes special payments to hospitals and clinicians, such as payments to hospitals for indirect medical education, that are not evenly distributed across geographic areas. We adjusted spending to remove the effects of these special payments. We also adjusted for differences in beneficiaries’ demographics and health status so that service use reflected volume and intensity of services,

Adjusting Part A and Part B spending to measure Part A and Part B service use

We used the same method to estimate use of Part A and Part B services in both 2013 and 2018 for the geographic areas in our analysis. To obtain these estimates, we used data from the Master Beneficiary Summary Files (MBSFs) and, for hospital inpatient services (acute hospital, inpatient rehabilitation, long-term care hospital, and inpatient psychiatric facilities), the Medicare Provider Analysis and Review (MedPAR) file. We developed geographic areas based on metropolitan statistical areas (MSAs) of the core-based statistical area definitions. For each state, we grouped counties in the same MSA into one geographic area. For MSAs that cross state borders, we created geographic areas that included only the portion of the MSA in each state. For example, the Minneapolis–Saint Paul MSA consists of 14 counties in Minnesota and 2 counties in Wisconsin. We created one geographic area for the 14 Minnesota counties and a separate geographic area for the 2 Wisconsin counties. Finally, within each state, we grouped all the counties not in an MSA into a single statewide, non-MSA geographic area. Through this method, we defined 484 geographic areas.

We used the MBSF data to determine Medicare expenditures in seven health care sectors: hospital outpatient, skilled-nursing facility, home health, durable medical equipment, hospice, clinician, and other Part B services.¹ We included expenditures for clinical laboratory tests and physician-administered drugs in

the sectors in which the laboratory tests and drugs were provided, which are predominantly the clinician and hospital outpatient sectors. Our computation of Medicare program spending did not include beneficiaries' payments for cost sharing because the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) directs the Commission to evaluate total utilization and expenditures under Parts A, B, and D of Medicare, which implies spending by the Medicare program, not beneficiaries' cost sharing. We tracked the data to each beneficiary's area of residence, not to where the services were provided.

For all services other than hospital inpatient care, we obtained beneficiary-level spending data from the MBSFs for both 2013 and 2018. We adjusted the spending data in the MBSFs for differences in regional prices, including geographic practice cost indexes (GPCIs) for clinicians and hospital wage indexes (HWIs) for all other providers. We also adjusted spending for additional payments to clinicians in health professional service areas and for clinicians who participate in the Medicare Shared Savings Program or the Comprehensive Primary Care Plus Program. Moreover, we adjusted for special outpatient and skilled nursing payments for critical access hospitals. We removed the effects that these special payments had on variation in spending by calculating the national per beneficiary amount of these special payments and adding it to each beneficiary's service use.

(continued next page)

not differences among beneficiaries themselves that can affect service use.

We conducted a beneficiary-level regression analysis using data for 100 percent of Medicare FFS beneficiaries to estimate service use for each geographic area in 2018. We used data from 2013 in the same regression-based approach to estimate service use for each geographic area in 2013. Our data from 2018 included about 38.8 million beneficiaries, and our data from 2013 included about 37.7 million beneficiaries. The regression-based method we used for this analysis is summarized in the text box about adjusting Part A and Part B spending data.

Relationship between spending on clinician services and spending on all Part A and Part B services

Data from the Medicare Trustees' annual reports indicate that the share of Medicare spending on all Part A and Part B services in FFS Medicare that was attributable to clinician services fluctuated in a narrow range from 2009 through 2019 (Table 10-1). During this period, clinician services as a share of total spending on Part A and Part B services was at a maximum of 19.6 percent in 2011 and a minimum of 17.6 percent in 2018. This share of spending increased from 2009 to 2011, decreased from 2011 to

Adjusting Part A and Part B spending to measure Part A and Part B service use (cont.)

For a given beneficiary, we used the GPCIs and HWIs from where the beneficiary resides to adjust their spending. However, beneficiaries sometimes receive health care in geographic areas other than their area of residence. In some cases, the GPCIs and HWIs differ between where a beneficiary receives health care and where he or she resides. We did not address this issue of border crossing for services in the seven sectors included in the MBSFs. This approach could result in some overestimation of service use in rural areas if patients received their ambulatory care or post-acute care in higher priced urban areas. However, we believe this issue is small for these services, relative to inpatient services. For example, it is plausible that patients are less likely to travel long distances for clinician services than for inpatient care. In addition, the payment areas represented by GPCIs (112 payment areas) in the physician payment system tend to be larger than the payment areas in the inpatient payment system (about 450).

We used the MedPAR file to compute service use for hospital inpatient care. For each inpatient claim for an acute care hospital in the MedPAR file, we multiplied the relative weight for the claim's diagnosis related group by the national standardized rate to create an estimated payment for the claim that excludes the effects of adjustments for regional prices. We summed these results from the claims to the beneficiary level to create an estimate of adjusted acute inpatient service use for each beneficiary. Some hospitals received additional payments in the form of payments for graduate medical education, indirect medical education, treatment for disproportionate shares of low-income patients, and payments under participation in the

Bundled Payments for Care Improvement policy. We removed the effects that these special payments had on variation in spending by calculating the national per beneficiary amount of these special payments and adding it to each beneficiary's adjusted acute inpatient service use. Finally, we adjusted the acute inpatient service use to include outlier payments and adjustments for transfer cases. For outlier adjustments, we removed the effects of regional differences in input prices.

We also used the MedPAR file to compute service use in inpatient rehabilitation facilities, inpatient psychiatric facilities, and long-term care hospitals. For these three settings, we determined the Medicare payment amount indicated on each claim, net of indirect medical education payments, disproportionate share hospital payments, payments for rural location, payments for low-income patients, and payments for facilities located in Alaska or Hawaii. We adjusted each net Medicare payment by the facility's HWI. We determined national average amounts for each of the special payments we removed to determine the net Medicare payment amount and added those national average amounts to each beneficiary's adjusted net Medicare payment.

We used claims data from the MedPAR file as the source for inpatient services because beneficiaries frequently obtained care in locations where the HWI used to adjust inpatient payments for geographic differences in wages was different from the HWI of their area of residence. Use of the claims data allowed us to adjust beneficiaries' inpatient spending using the HWIs where their services were provided. If we had used spending on inpatient services from the MBSFs, we would have had to adjust that spending for the

(continued next page)

2018, then increased again from 2018 to 2019. In short, there was not a consistent relationship over time between the change in spending on clinician services and the change in spending on all Part A and Part B services.

We also evaluated a measure that adds spending for clinical laboratory tests and physician-administered

drugs—two sectors not covered by the Medicare physician fee schedule (PFS) but use of which clinicians largely control—to spending on clinician services. The spending on this measure as a share of spending on all Part A and Part B spending had less variation than did spending on clinician services—a maximum of 23.8 percent in 2014 and a minimum of 22.8 percent in 2009 (data not shown).

Adjusting Part A and Part B spending to measure Part A and Part B service use (cont.)

border crossing that potentially occurs more often with inpatient care than other service types. Adjusting for border crossing would have been more difficult than using our method based on the inpatient claims from the MedPAR file.

To estimate total price-adjusted spending for each beneficiary, we added the price-adjusted inpatient spending derived from the MedPAR claims to the price-adjusted spending for the seven health care sectors from the MBSFs. Because we used both 2013 and 2018 data in our analysis, we adjusted the price-adjusted 2018 spending amounts in each of the health care sectors for updates to the Medicare payment rates in each sector from 2013 to 2018.

We further adjusted the spending amounts for regional differences in demographics and health status using a regression-based method. We performed a separate set of regressions for the 2013 data and the 2018 data. In both years, we performed a regression for price-adjusted total spending and regressions for price-adjusted spending in each of the health care sectors. In each regression, the dependent variable was a beneficiary's monthly fee-for-service spending that had been adjusted for regional prices and additional payments. Explanatory variables included:

- demographic variables, such as age and sex;
- all conditions in CMS's hierarchical condition category (CMS-HCC) model (70 conditions in 2013 and 77 conditions in 2018), which CMS used to risk adjust Medicare Advantage payments in 2013 and 2018;

- other beneficiary-level factors in the CMS-HCC model, such as disability, dual eligibility for Medicare and Medicaid, and institutional status; and
- an indicator of the beneficiary's geographic area as defined for this study.

The regressions produced coefficients for the demographic variables, the CMS-HCCs, the other factors in the CMS-HCC model, and the 484 geographic areas.

We used results from the regressions to estimate both per capita total service use and per capita service use in each health care category in each geographic area as follows:

- We created national average spending amounts by multiplying the mean value of each explanatory variable—except for the indicators for the geographic areas—by the value of its coefficient from the regression and summing these products. These calculations had the effect of removing the variation in service use resulting from characteristics such as demographics and health status.
- We added the coefficient for each geographic area from the regressions to the national average spending amounts. The result is our measure of service use for each geographic area.
- We used this process for total Part A and Part B services and for service use in each health care sector. ■

We caution against placing much emphasis on the results that are based on raw, unadjusted expenditures because Medicare uses different methods for annually updating the payment rates in different health care sectors. For example, payment rates in the PFS had small updates over the 2013 through 2019 period relative to the other sectors, such as hospital outpatient services. In particular, MACRA

implemented very small updates to the PFS payment rates from 2015 through 2019. The relatively small updates that occurred in the PFS mitigated the share of total Medicare expenditures attributable to clinician services simply because prices rose more slowly for clinician services than for other services. For example, if payment rates in the PFS had been updated over the 2013 through 2019

**TABLE
10-2**

Use of Part A and Part B services had less regional variation than use of clinician services, 2018

Measure of variation	Part A and Part B service use	Clinician service use
Ratio of 90th to 10th percentile	1.22	1.55
Ratio of maximum to minimum	1.62	2.81

Note: "Part A and Part B service use" is per capita use in each geographic area of all services covered under Part A and Part B of Medicare. "Clinician service use" is per capita use of clinician services in fee-for-service Medicare in each geographic area. We defined geographic areas as the metropolitan statistical areas (MSAs) of the core-based statistical areas. If an MSA crosses state borders, we divided the MSA into multiple areas based on state borders. Areas that are not in MSAs were aggregated, per state, in one geographic area that consists of the given state's non-MSA counties.

Source: MedPAC analysis of the 2018 Master Beneficiary Summary File and the 2018 Medicare Provider Analysis and Review file.

period at the same rate as payment rates in the outpatient prospective payment system were, then clinician services as a share of all Part A and Part B services would have been more than 17.8 percent in 2019 (assuming no effect on the volume of clinician services provided).

Relationship between use of clinician services and use of nonclinician Part A and Part B services

We used several measures to evaluate the relationship between use of clinician services and use of nonclinician Part A and Part B services (total Part A and Part B services, excluding clinician services). These measures included the following:

- We determined the change from 2013 to 2018 in the share of all Part A and Part B service use attributable to clinician services.
- For each geographic area, we determined the per capita use of clinician services and per capita use of nonclinician Part A and Part B services in 2013 and 2018. We used these results to determine, for each geographic area, the percentage change from 2013 to 2018 in the use of clinician services and nonclinician Part A and Part B services.
- We determined the correlation between the percentage change from 2013 to 2018 in use of clinician services and the percentage change in use of nonclinician Part A and Part B services among our geographic areas. A positive correlation between the percentage change in use of clinician services and percentage change in use of nonclinician Part A

and Part B services would suggest that higher use of clinician services was associated with higher use of nonclinician Part A and Part B services, meaning they were complements. A negative correlation would suggest higher use of clinician services was associated with lower use of nonclinician Part A and Part B services, meaning they were substitutes.

- For 2018, we estimated the correlation between use of clinician services and use of nonclinician Part A and Part B services among our geographic areas. A positive correlation would suggest that greater use of all nonclinician services was related to greater use of clinician services (complements). A negative correlation would suggest higher use of clinician services was associated with lower use of nonclinician Part A and Part B services (substitutes).

Variation in use of all Part A and Part B services across regions is less than the variation in use of clinician services

A comparison of service use from 2018 across our 484 geographic areas shows that use of all Part A and Part B services (including clinician services) varied less than use of clinician services (Table 10-2). For example, use of Part A and Part B services was 22 percent higher at the 90th percentile than at the 10th percentile, while use of clinician services was 55 percent higher at the 90th percentile than at the 10th percentile. At the extremes, use of Part A and Part B services was 62 percent higher in the highest use area than in the lowest use area, while use of clinician services was 181 percent higher in the highest use area than in the lowest use area.

**TABLE
10-3****Clinician services as a share of all Part A and Part B services decreased slightly from 2013 to 2018**

Sector	Share of all Part A and Part B services	
	2013	2018
Clinician	24.3%	23.8%
Acute inpatient	35.7	35.5
Outpatient facilities	13.3	16.2
Skilled nursing facilities	8.5	7.3
Hospice	4.7	4.7
Home health agencies	5.1	4.7
Durable medical equipment	2.0	1.9
Inpatient rehabilitation facilities	1.8	1.9
Long-term care hospitals	2.1	1.5
Other Part B	1.4	1.6
Inpatient psychiatric facilities	1.1	1.0

Note: We deflated our 2018 service use estimates to 2013 levels to remove the effects of payment updates that occurred over the 2013 through 2018 period. We included use of clinical laboratory tests and physician-administered drugs in the sectors in which they were used, which were predominantly the clinician and outpatient facilities sectors. "Outpatient facilities" consists primarily of hospital outpatient departments but also includes freestanding dialysis facilities, outpatient rehabilitation facilities, and rural health clinics. The percentages in the 2018 column do not sum to 100 due to rounding.

Source: MedPAC analysis of data from the 2013 and 2018 Master Beneficiary Summary Files and the 2013 and 2018 Medicare Provider Analysis and Review files.

Use of clinician services as a share of all Part A and Part B services, 2013 compared with 2018

We found that use of clinician services as a share of all Part A and Part B services decreased slightly from 24.3 percent in 2013 to 23.8 percent in 2018 (Table 10-3). For 2013 and 2018, we also divided total service use into 11 sectors. We found that the hospital outpatient sector had the largest service use increase from 2013 through 2018, the skilled nursing facility sector had the largest decrease, and the other nine sectors had either small increases or decreases. The small decrease in the clinician sector is likely a reflection of the acquisition of clinician practices by hospitals.

Correlation between percentage change in use of clinician services and percentage change in use of nonclinician Part A and Part B services

To determine whether any correlation existed in the use of clinician and nonclinician services covered under Part A and Part B, we performed a linear regression that had

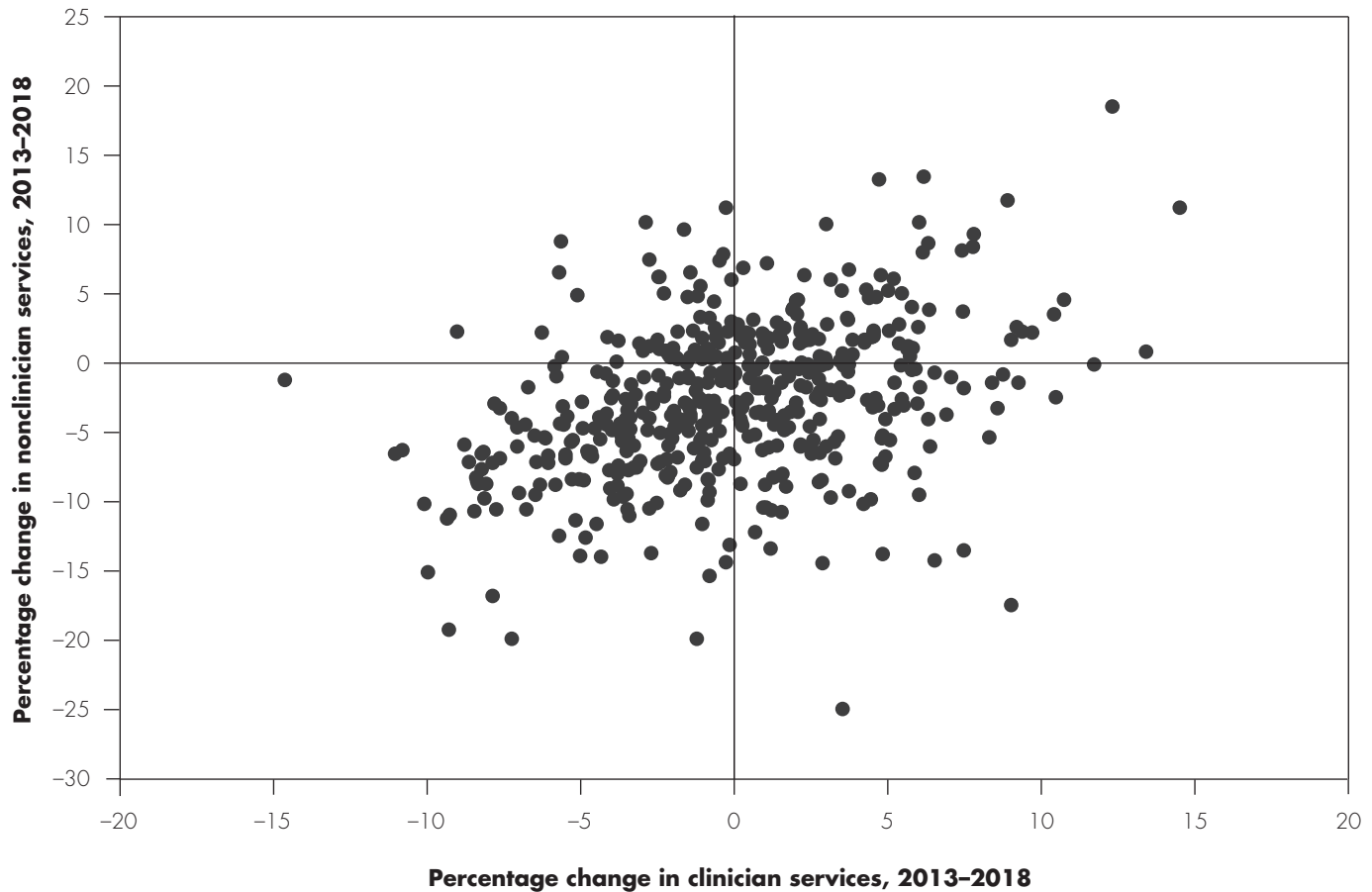
as the dependent variable the percentage change from 2013 to 2018 in per capita nonclinician Part A and Part B service use for each geographic area. This regression had one explanatory variable: the percentage change from 2013 to 2018 in per capita use of clinician services for each geographic area.

Results from this regression indicate that the percentage change in clinician services explains only 1 percent of the variation in the percentage change in nonclinician Part A and Part B services among geographic areas ($R^2 = 0.01$). Also, the coefficient on percentage change over time in clinician services was 0.001, which indicates that a 1 percentage point increase in clinician services resulted in a 0.001 percentage point increase in use of nonclinician Part A and Part B services over time.²

Figure 10-1 (p. 348) depicts the relationship between the percentage change in use of clinician services and the percentage change in nonclinician Part A and Part B services. This figure indicates there was a nearly neutral relationship between change in clinician services and change in nonclinician Part A and Part B services.

**FIGURE
10-1**

Weak relationship between percentage change in use of clinician services and change in use of nonclinician services, 2013–2018



Note: “Nonclinician services” includes all Medicare Part A and Part B services except for clinician services. We deflated our 2018 service use estimates to 2013 levels to remove the effects of payment updates that occurred over the 2013 through 2018 period. We defined the units of analysis as the metropolitan statistical areas (MSAs) of the core-based statistical areas. If an MSA crosses state borders, we divided the MSA into multiple areas based on state borders. In each state, we aggregated areas that are not in MSAs into one geographic area that consists of the given state’s non-MSA counties.

Source: MedPAC analysis of data from the 2013 and 2018 Master Beneficiary Summary Files and the 2013 and 2018 Medicare Provider Analysis and Review files.

Correlation between use of clinician services and use of nonclinician Part A and Part B services in 2018

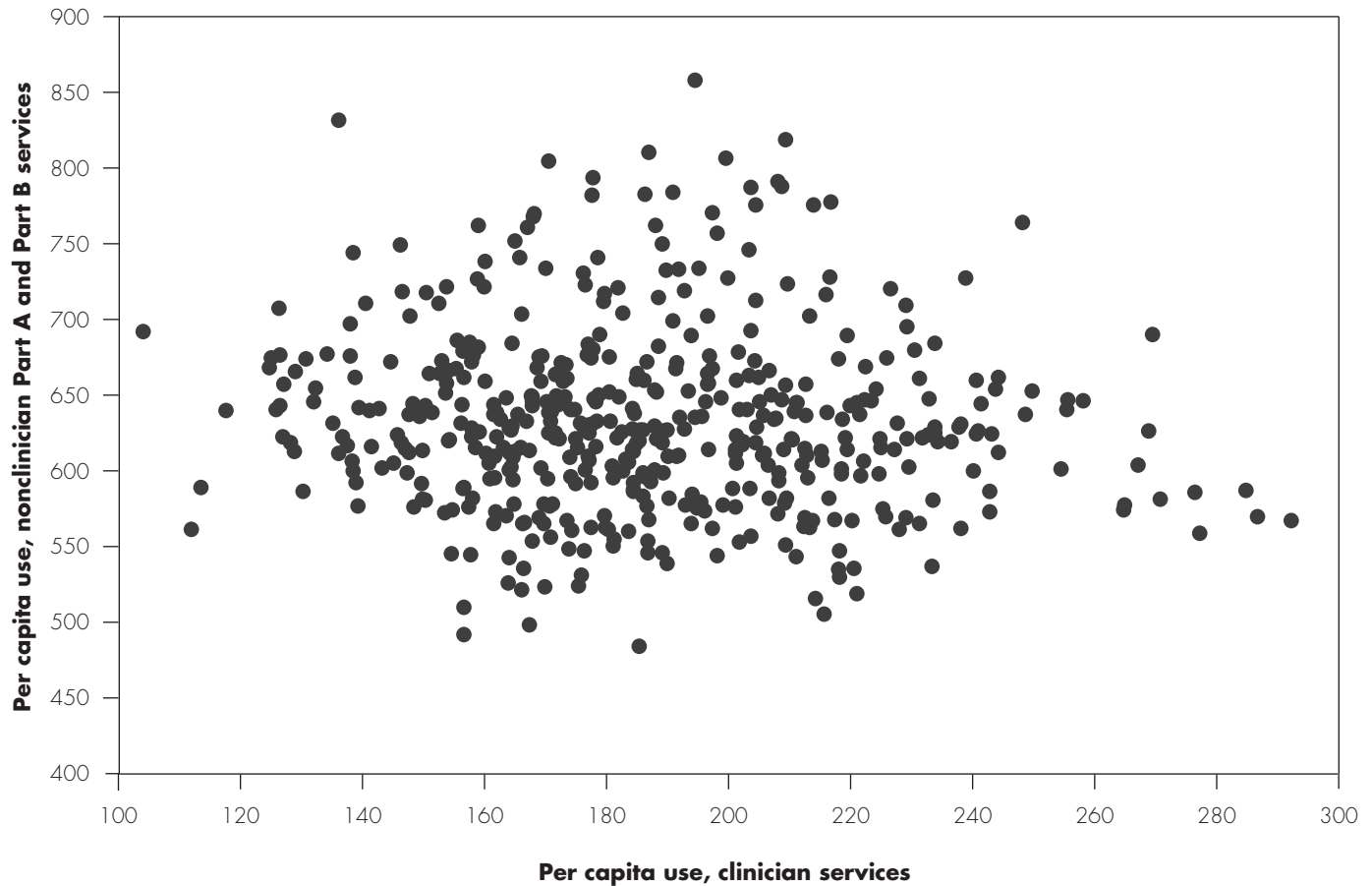
We performed another regression that focused on service use in 2018. In this regression, the dependent variable was our estimate of the per capita use of nonclinician Part A and Part B services in 2018 for each of our 484 geographic areas. The single explanatory variable was our estimate of per capita use of clinician services in 2018 for each geographic area.

Results from this regression suggested a slightly negative—but almost neutral—relationship between use

of clinician services and use of nonclinician Part A and Part B services. Use of clinician services explains almost none of the variation in use of nonclinician Part A and Part B services ($R^2 = 0.007$). Also, the coefficient on per capita use of clinician services was -0.15 and had a relatively high p -value of 0.07 , which indicates only moderate statistical significance. A scatter plot of the relationship between use of clinician services and use of nonclinician Part A and Part B services confirmed a very low level of correlation (Figure 10-2). These findings suggest that use of clinician services had a slightly negative effect on the use of nonclinician Part A and Part B services, perhaps

**FIGURE
10-2**

Weak relationship between use of clinician services and use of nonclinician Part A and Part B services, 2018



Note: "Nonclinician services" includes all Medicare Part A and Part B services except for clinician services. We defined the units of analysis as the metropolitan statistical areas (MSAs) of the core-based statistical areas. If an MSA crosses state borders, we divided the MSA into multiple areas based on state borders. Areas that are not in MSAs were aggregated, per state, in one geographic area that consists of the given state's non-MSA counties.

Source: MedPAC analysis of data from the 2018 Master Beneficiary Summary File and the 2018 Medicare Provider Analysis and Review file.

suggesting weak substitutes. (Note that this analysis shows association, not causality.)

Relationship between spending on and use of clinician services and Part D drugs

As requested in MACRA, we also examined the relationship between spending on and use of clinician services and prescription drugs covered under Medicare Part D.

The majority of Medicare beneficiaries receive their prescription drug coverage through the Part D program (Table 10-4, p. 350). Most other beneficiaries receive prescription drug coverage from other sources, such as their former employers, that is at least as generous as the Part D benefit, but we have no drug spending data for those beneficiaries.

Because the legislation directed us to evaluate Medicare Part A, Part B, and Part D, this analysis is limited to a subset of beneficiaries who were enrolled in Part D's stand-alone prescription drug plans (PDPs) and received their medical services under Part A and Part B of

**TABLE
10-4****Part D enrollment and characteristics of beneficiaries
enrolled in stand-alone PDPs, 2013 and 2018**

	2013	2018
Medicare beneficiaries enrolled in Part D		
Number of beneficiaries, in millions	37.8	46.8
As a share of all Medicare beneficiaries	69%	74%
Part D enrollees in PDPs		
Number of beneficiaries, in millions	24.2	27.2
As a share of all Part D enrollees (remainder in MA-PDs)	64%	58%
As a share of FFS beneficiaries	61%	67%
Selected demographics of PDP enrollees		
Share:		
Female	58%	57%
Under age 65 (disabled)	22	18
Non-White	23	22
Receiving Part D's low-income subsidy	38	31
Residing in metropolitan areas	78	78

Note: PDP (prescription drug plan), MA-PD (Medicare Advantage-Prescription Drug [plan]), FFS (fee-for-service).

Source: MedPAC analysis of Medicare Part D denominator files from CMS.

Medicare. That is, we excluded beneficiaries enrolled in Medicare Advantage-Prescription Drug plans (MA-PDs) from our analysis. PDP enrollees accounted for about 64 percent (24.2 million) and 58 percent (27.2 million) of Part D enrollees in 2013 and 2018, respectively (Table 10-4).

The share of Medicare beneficiaries covered under Part D has grown over time, as has the share of enrollees in MA-PDs (Table 10-4). In 2018, 74 percent of beneficiaries received their drug coverage under Part D, up from 69 percent in 2013. At the same time, between 2013 and 2018, beneficiaries who were enrolled in Medicare Advantage plans (rather than traditional FFS) rose from 28 percent to 35 percent (data not shown). As a result, beneficiaries enrolled in PDPs accounted for 58 percent of all beneficiaries enrolled in Part D, down from 64 percent in 2013. Data included in the analysis of 2018 drug spending and use accounted for about 63 percent of total gross Part D spending compared with over 70 percent for 2013 (data not shown).

Changes in the pattern of Part D enrollment have resulted in PDP enrollees who have somewhat different demographic characteristics in 2018 compared with 2013. For example, in 2018, a smaller share of PDP enrollees were disabled beneficiaries under age 65 (18 percent, compared with 22 percent in 2013) and a smaller share received the low-income subsidy (31 percent, compared with 38 percent in 2013).

Data and methods

The method we used to estimate drug use in each geographic area parallels the method used to estimate medical service use from the MBSF. We obtained estimates of prescription drug use from Part D prescription drug event (PDE) data.³ For our analysis, we used gross drug spending from the PDE data that reflect ingredient costs—that is, payments to pharmacies for covered Part D drugs, excluding dispensing fees, sales tax, and any postsale rebates and discounts from manufacturers and pharmacies. (This measure of Part D drug spending and use differs from the measure of spending and service

**TABLE
10-5****Growth in unadjusted per capita spending for clinician services and Part D drugs diverged after 2013**

	Percent change				
	2008	2013	2018	2008-2013	2013-2018
Physician fee schedule payment per FFS enrollee	\$1,836	\$2,061	\$2,078	12%	1%
Gross Part D spending per PDP enrollee	2,805	3,096	3,899	10	26

Note: FFS (fee-for-service), PDP (prescription drug plan). "Gross Part D spending" includes payments for ingredient costs, dispensing fees, and sales taxes, before accounting for postsale rebates and discounts.

Source: MedPAC analysis based on Table IV.B2 of the annual report of the Boards of Trustees of the Medicare trust funds for 2016, Table IV.B2 of the annual report of the Boards of Trustees of the Medicare trust funds for 2020, and Part D prescription drug event data and denominator files from CMS.

use covered under Part A and Part B in that it includes beneficiary cost-sharing liabilities.) Because there are no special payment adjustments (such as indirect medical education) as there are in Part A and Part B of Medicare, we calculated drug use as gross drug spending adjusted for beneficiary demographics and health status; after adjustment, the measure of drug use reflects volume (number of prescriptions) and intensity (such as choice of a brand-name vs. generic medication).⁴

We used a regression-based method to estimate service use by adjusting for differences in demographics (e.g., age, sex, institutional status, low-income subsidy status) and health status as measured by the prescription drug hierarchical condition categories (RxHCCs) (see text box for the description of the regression-based method used to obtain estimated use of Part A and Part B services, pp. 343–345).⁵ Estimated service use reflects average monthly drug use for each beneficiary (i.e., total annual drug use divided by the number of months enrolled in a Part D plan).

To measure the change in drug use from 2013 to 2018, we adjusted 2018 drug spending to account for the average increase in drug prices observed between 2013 and 2018. The volume-weighted price index constructed by Acumen LLC showed that, between 2013 and 2018, overall prices of Part D–covered prescription drugs filled by PDP enrollees grew from 1.01 to 1.17. To adjust 2018 drug spending to account for the increase in drug prices between 2013 and 2018, we reduced the 2018

drug spending by 14 percent (adjustment factor of 0.86 calculated by dividing 1.01 by 1.17).⁶ This adjustment is greater than the 3.3 percent reduction applied to 2013 drug spending in the previous report, which examined drug spending and use in 2008 and 2013, reflecting the more rapid growth in prices at the pharmacy after 2013 (Medicare Payment Advisory Commission 2017).

Findings on the relationship between clinician services and Part D drugs

We compared spending for clinician services and Part D drugs for the subset of FFS beneficiaries who receive their drug coverage through the Part D program. We first examined the relationship between unadjusted spending in these two sectors. Second, to examine the relationship between clinician service use and Part D prescription drug use, we compared spending adjusted for differences in demographics and health status across the MSA-based geographic areas.

Growth in unadjusted per capita spending for clinician services and Part D drugs diverged after 2013

From 2008 through 2013, unadjusted per capita spending on services covered under the physician fee schedule (clinician services) and spending for drugs covered under Part D grew at similar rates (cumulative growth of 12 percent and 10 percent, respectively) (Table 10-5). However, the growth trends diverged dramatically after 2013. Between 2013 and 2018, annual gross Part D spending per PDP enrollee

**TABLE
10-6**

Prescription drug use had less variation across regions than clinician service use, 2018

Measure of variation	Prescription drug use	Clinician service use
Ratio of 90th to 10th percentile	1.25	1.55
Ratio of maximum to minimum	1.83	2.75

Note: "Prescription drug use" is per capita drug use among enrollees in stand-alone prescription drug plans in each geographic area. "Clinician service use" is per capita use of clinician services among fee-for-service (FFS) beneficiaries in each geographic area. We define geographic areas as the metropolitan statistical areas (MSAs) of the core-based statistical areas. If an MSA crosses state borders, we divided the MSA into multiple areas based on state borders. For areas not in MSAs, the geographic area is a state's counties not in MSAs. The measures of variation reported for clinician service use differ slightly from those reported in Table 10-2 (p. 346) because the measures are based on clinician service use by a subset of FFS beneficiaries who were enrolled in Part D (about 67 percent of all FFS beneficiaries).

Source: MedPAC analysis of the 2018 Master Beneficiary Summary File and 2018 prescription drug event data from CMS.

increased by 26 percent, from \$3,096 to \$3,899. During the same period, Medicare's total annual spending per FFS enrollee for clinician services increased by 1 percent, from \$2,061 to \$2,078.

Because the two sectors use different payment methods, these comparisons in growth rates may not necessarily correspond with growth in service use. For example, various adjustments applied to payments for clinician services could distort the relationship that might exist between the use of clinician services and the use of drugs under Part D. Further, measuring changes in drug use is complicated by the fact that price growth (reflecting both higher prices of existing products and high launch prices of new drugs) has increasingly driven growth in Part D spending (Medicare Payment Advisory Commission 2020). Nearly all of the growth in Part D spending between 2013 and 2018 was due to higher prices rather than increases in the number of prescriptions filled by beneficiaries, a change from the 2008 through 2013 period when spending growth mostly reflected an increase in the number of prescriptions filled.⁷ The increase in prices after 2013 was driven primarily by drugs and biologics launched after 2013.⁸

Change in prescription drug use is positively correlated with change in clinician service use

To examine the relationship in our geographic areas between growth in the use of clinician services and growth in the use of drugs, we compared the level of service use in 2013 with the level of service use in 2018 to determine each area's growth rate from 2013 to 2018. During this

period, per capita drug use grew cumulatively by about 9.4 percent compared with a slight decline (–0.3 percent) in per capita clinician service use. However, growth in per capita use varied widely across regions. For example, growth in per capita drug use during this period ranged from –22 percent in the Kansas portion of the St. Joseph, Missouri–Kansas geographic area, to 40 percent in the El Centro, California, geographic area.

Results from our regression analysis suggest that, for the 2013 through 2018 period, change in drug use was positively correlated with change in an area's clinician service use (coefficient on the change in clinician service use of 0.36 ($p < 0.0001$)). This finding differs from that of our previous analysis that examined the period between 2008 through 2013. In that analysis, we found a negative correlation (–0.27, $p < 0.0001$) between the growth rate in an area's drug use and clinician service use.⁹ However, in both cases, the growth rate of clinician service use explained only 6 percent to 8 percent of the variation in the growth rate in drug use across the 484 geographic areas, suggesting very little relationship between the growth rates for these two sectors. (The adjusted R^2 for the regression analysis for the 2008 through 2013 period was 0.0568, and the adjusted R^2 for the 2013 through 2018 period was 0.0820.)

Prescription drug use varied less than clinician service use across regions

Similar to our analysis comparing clinician and nonclinician service use, we used a regression-based method to adjust spending data to remove the effects of

demographics and, in the case of clinician services, of regional differences in prices and special payments to providers.

A comparison of service use across our 484 geographic areas shows that use of prescription drugs (drug spending adjusted for variations in demographics and health status) varied less than use of clinician services in 2018 (Table 10-6). For example, drug use in high-use areas (areas at the 90th percentile) was 25 percent higher than in low-use areas (areas at the 10th percentile). In comparison, clinician service use in high-use areas was 55 percent higher than in low-use areas. At the extremes, drug use in the area with highest use was about 1.83 times that in the area with lowest use, compared with 2.75 times for areas with the maximum and minimum clinician service use. These findings are consistent with our previous analysis of 2008 and 2013 data for the initial report (Medicare Payment Advisory Commission 2017).

Clinician service use is positively correlated with prescription drug use

A cross-sectional analysis of clinician service use and drug use data for 2018 suggests that they may be weak complements rather than substitutes for one another. This finding is consistent with our previous findings based on the analysis of 2013 data (Medicare Payment Advisory Commission 2017). Results from a regression analysis indicate that use of clinician services explains about 22 percent of the variation in drug use ($R^2 = 0.2249$). The estimated coefficient is positive (0.35) and is similar in magnitude to the results of our previous analysis of 2013 data (estimated coefficient of 0.3, $R^2 = 0.2397$). (It is important to note that we are measuring association, not causality.)

either weak substitutes or are uncorrelated. As for the relationship between clinician services and prescription drug use, the positive relationship we found for changes in service use from 2013 through 2018 is different from our previous analysis covering the 2008 to 2013 period. However, in both cases, the variation in service use explained only 6 percent to 8 percent of the variation in drug use (i.e., R^2 values of 0.06 and 0.08, respectively), suggesting that there may be very little relationship between changes in the service use in these two sectors. The modest positive correlation between the levels of clinician service use and drug use, however, is consistent with our prior findings. This correlation is not surprising given that most prescriptions are written by clinicians during office visits.

Two caveats should be considered in interpreting these findings. First, correlation in service use among different sectors does not prove causality. Second, our results are based on aggregate trends and do not represent individual circumstances or geographic areas. ■

Implications of our findings

The variability in Medicare spending on clinician services as a share of Medicare spending on all Part A and Part B services from 2009 through 2019 indicates there was not a consistent relationship over time between the change in spending on clinician services and the change in spending on all Part A and Part B services. For the 2013 to 2018 period, there was a weak (nearly neutral) correlation between use of clinician services and use of nonclinician Part A and Part B services. This finding suggests that clinician and nonclinician Part A and Part B services are

Endnotes

- 1 Other Part B services include services provided in the ambulatory surgical center, dialysis, and anesthesia sectors.
- 2 In the Commission's initial report, published in June 2017, we presented results of a regression that had designated change in use of *all* Part A and Part B services (including clinician services) as the dependent variable and change in use of clinician services as the explanatory variable. The results of that regression showed a weak positive relationship between change in use of clinician services and change in use of all Part A and Part B services. We do not believe this comparison is the best representation of the relationship between use of clinician services and overall use of Part A and Part B services because of endogeneity. That is, greater use of clinician services can drive greater use of all Part A and Part B services because clinician services are a large share of total Part A and Part B services. Nevertheless, we performed the same regression using the percentage change in service use from 2013 to 2018 among our 484 geographic areas. We found largely the same result as that we reported in the Commission's June 2017 report, a weak positive relationship.
- 3 PDE data include all payments to pharmacies for drugs covered under Part D, including payments by plans, beneficiaries, manufacturers (for brand-name drugs and biologics subject to the coverage-gap discount), and Medicare through the low-income cost-sharing subsidy that provides cost-sharing assistance for beneficiaries with low income and assets.
- 4 While prices for a given drug may vary across pharmacies, in general, drug prices do not vary systematically across the U.S. For example, for years between 2008 and 2013, variation in drug prices across states ranged from 1 percentage point to 2 percentage points below the national average to 1 percentage point to 3 percentage points above the national average. Our analysis did not adjust for regional difference in average prices because it would have had no material effect on the estimates of drug use across geographic areas based on MSAs.
- 5 The RxHCC model is used to risk adjust Medicare's capitated payments to Part D plans to reflect the underlying health status of each plan's enrollees. The model is based on gross plan liability before accounting for postsale rebates and discounts. Similar to the CMS–HCC model, the RxHCC model includes demographic variables, such as age, sex, and institutional status, and a set of condition categories (76 RxHCCs in 2018).
- 6 The Commission's Part D price index does not account for postsale rebates and discounts paid by pharmaceutical manufacturers and pharmacies and is measured at the median of the distribution. The index reflects actual prescription drug use by beneficiaries enrolled in PDPs (i.e., measured using prices that take generic substitution into account). Adjustment factors are calculated based on the price index measured in July of respective years.
- 7 In both 2013 and 2018, beneficiaries enrolled in PDPs filled, on average, a total of 52 standardized 30-day prescriptions per year.
- 8 Most of the growth in per capita Part D spending after 2013 was attributable to new high-priced drugs and biologics, typically placed on a specialty tier, that were launched after 2013. CMS allows plan sponsors to place high-priced drugs and biologics whose cost exceeds a specified threshold on a specialty tier with higher coinsurance. In 2018, that threshold was \$670 per month.
- 9 In our previous analysis of the relationship between the physician and other health professional services and other Medicare services, we used all carrier-paid services as a proxy for clinician services (Medicare Payment Advisory Commission 2017). For this analysis, we used a subset of carrier-paid services to examine services provided by physicians and other health professionals.

References

Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2020. *2020 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*. Washington, DC: Boards of Trustees.

Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2019. *2019 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds*. Washington, DC: Boards of Trustees.

Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2017. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.

A P P E N D I X

A

**Commissioners' voting
on recommendations**



Commissioners' voting on recommendations

In the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000, the Congress required MedPAC to call for individual Commissioner votes on each recommendation and to document the voting record in its report. The information below satisfies that mandate.

Chapter 1: Rebalancing Medicare Advantage benchmark policy

The Congress should replace the current Medicare Advantage (MA) benchmark policy with a new MA benchmark policy that applies:

- a relatively equal blend of per capita local area fee-for-service (FFS) spending with price-standardized per capita national FFS spending;
- a rebate of at least 75 percent;
- a discount rate of at least 2 percent; and
- the Commission's prior MA benchmark recommendations—using geographic markets as payment areas, using the FFS population with both Part A and Part B in benchmarks, and eliminating the current pre-Affordable Care Act cap on benchmarks.

Yes: Casalino, Chernew, DeBusk, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Perlin, Pyenson, Rambur, Riley, Ryu, Safran, Thompson, Wang

Absent: DeSalvo

Chapter 2: Streamlining CMS's portfolio of alternative payment models

The Secretary should implement a more harmonized portfolio of fewer alternative payment models that are designed to work together to support the strategic objectives of reducing spending and improving quality.

Yes: Casalino, Chernew, DeBusk, DeSalvo, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Perlin, Pyenson, Rambur, Riley, Ryu, Safran, Thompson, Wang

Chapter 3: Congressional request: Private equity and Medicare

No recommendations

Chapter 4: Mandated report: Evaluating the skilled nursing facility value-based purchasing program

4-1 The Congress should eliminate Medicare’s current skilled nursing facility (SNF) value-based purchasing program and establish a new SNF value incentive program (VIP) that:

- scores a small set of performance measures;
- incorporates strategies to ensure reliable measure results;
- establishes a system for distributing rewards that minimizes cliff effects;
- accounts for differences in patient social risk factors using a peer-grouping mechanism; and
- completely distributes a provider-funded pool of dollars.

Yes: Casalino, Chernew, DeBusk, DeSalvo, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Perlin, Pyenson, Rambur, Riley, Ryu, Safran, Thompson, Wang

4-2 The Secretary should finalize development of and begin to report patient experience measures for skilled nursing facilities.

Yes: Casalino, Chernew, DeBusk, DeSalvo, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Perlin, Pyenson, Rambur, Riley, Ryu, Safran, Thompson, Wang

Chapter 5: Congressional request: Medicare beneficiaries’ access to care in rural areas (interim report)

No recommendations

Chapter 6: Revising Medicare’s indirect medical education payments to better reflect teaching hospitals’ costs

The Congress should require CMS to transition to empirically justified indirect medical education adjustments to both inpatient and outpatient Medicare payments.

Yes: Casalino, Chernew, DeBusk, DeSalvo, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Pyenson, Rambur, Ryu, Thompson, Wang

Abstain: Perlin, Riley

Absent: Safran

Chapter 7: Medicare vaccine coverage and payment

The Congress should:

- cover all appropriate preventive vaccines and their administration under Part B instead of Part D without beneficiary cost sharing and
- modify Medicare's payment rate for Part B–covered preventive vaccines to be 103 percent of wholesale acquisition cost, and require vaccine manufacturers to report average sales price data to CMS for analysis.

Yes: Casalino, Chernew, DeBusk, DeSalvo, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Perlin, Pyenson, Rambur, Riley, Ryu, Thompson, Wang

Absent: Safran

Chapter 8: Improving Medicare's policies for separately payable drugs in the hospital outpatient prospective payment system

8-1 The Congress should direct the Secretary to modify the pass-through drug policy in the hospital outpatient prospective payment system so that it:

- includes only drugs and biologics that function as supplies to a service and
- applies only to drugs and biologics that are clinically superior to their packaged analogs.

Yes: Casalino, Chernew, DeBusk, DeSalvo, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Perlin, Pyenson, Rambur, Riley, Ryu, Thompson, Wang

Absent: Safran

8-2 The Secretary should specify that the separately payable non-pass-through policy in the hospital outpatient prospective payment system applies only to drugs and biologics that are the reason for a visit and meet a defined cost threshold.

Yes: Casalino, Chernew, DeBusk, DeSalvo, M. Ginsburg, P. Ginsburg, Grabowski, Jaffery, Navathe, Perlin, Pyenson, Rambur, Riley, Ryu, Thompson, Wang

Absent: Safran

Chapter 9: Mandated report: Assessing the impact of recent changes to Medicare's clinical laboratory fee schedule payment rates

No recommendations

Chapter 10: Mandated report: Relationship between clinician services and other Medicare services

No recommendations

Acronyms

Acronyms

24/7	24 hours per day, 7 days per week	COPD	chronic obstructive pulmonary disease
AAPCC	adjusted average per capita cost	COVID-19	coronavirus disease 2019
A-APM	advanced alternative payment model	CPC+	Comprehensive Primary Care Plus
ACA	Affordable Care Act of 2010	CPCI	Comprehensive Primary Care Initiative
ACE	acute care episode	CPIA	clinical practice improvement activities
ACIP	Advisory Committee on Immunization Practices	CPI-U	consumer price index for all urban consumers
ACO	accountable care organization	CPOM	corporate practice of medicine
ADLT	advanced diagnostic laboratory test	CPT	Current Procedural Terminology
AHRQ	Agency for Healthcare Research and Quality	DGME	direct graduate medical education
AIM	ACO Investment Model	DHS	designated health services
APC	ambulatory payment classification	DME	durable medical equipment
APM	alternative payment model	DRG	diagnosis related group
APRN	advanced practice registered nurse	DSH	disproportionate share hospital
ASP	average sales price	D-SNP	dual-eligible special needs plan
AWP	average wholesale price	e	Euler's number
B	billion	E&M	evaluation and management
BBA	Balanced Budget Act	EBIT	earnings before interest and taxes
BBA	Bipartisan Budget Act	EBITDA	earnings before interest, taxes, depreciation, and amortization
BIPA	Benefits Improvement and Protection Act of 2000	ED	emergency department
BPCI	Bundled Payments for Care Improvement	EHR	electronic health record
BRFSS	Behavioral Risk Factor Surveillance System	EMS	emergency medical services
CAH	critical access hospital	ESRD	end-stage renal disease
CAHPS®	Consumer Assessment of Healthcare Providers and Systems®	FDA	Food and Drug Administration
CARES	Coronavirus Aid, Relief, and Economic Security	FFS	fee-for-service
CBO	Congressional Budget Office	FQHC	Federally Qualified Health Center
CDC	Centers for Disease Control and Prevention	FY	fiscal year
CEC	Comprehensive ESRD Care	GAO	Government Accountability Office
CHART	Community Health Access and Rural Transformation	Geo	Geographic Direct Contracting Model
CHF	congestive heart failure	GME	graduate medical education
CHIP	Children's Health Insurance Program	GP	general partner
CHOW	Change of Ownership	GPCI	geographic practice cost index
CJR	Comprehensive Care for Joint Replacement	GPDC	Global and Professional Direct Contracting
CKD	chronic kidney disease	HAI	health care–associated infection
CLFS	clinical laboratory fee schedule	HCC	hierarchical condition category
CLIA	Clinical Laboratory Improvement Amendments	HCFA	Health Care Financing Administration
CMMI	Center for Medicare and Medicaid Innovation	HCPCS	Healthcare Common Procedure Coding System
CMS	Centers for Medicare & Medicaid Services	HMO	health maintenance organization
CMS-HCC	CMS hierarchical condition category	HOPD	hospital outpatient department
CNA	certified nursing assistant	HVIP	hospital value incentive program
		HWI	hospital wage index
		ICP	initial coverage phase

IIV	inactivated influenza vaccine	ONC	Office of the National Coordinator for Health Information Technology
IME	indirect medical education	OPPS	outpatient prospective payment system
IMPACT	Improving Medicare Post-Acute Care Transformation Act of 2014	PA	physician assistant
IPO	initial public offering	PAC	post-acute care
IPPS	inpatient prospective payment system	PACE	Program of All-Inclusive Care for the Elderly
IRF	inpatient rehabilitation facility	PAMA	Protecting Access to Medicare Act of 2014
I-SNP	institutional special needs plan	PBJ	Payroll-Based Journal
LBM	laboratory benefit manager	PBM	pharmacy benefit manager
LIS	low-income [drug] subsidy	PBPY	per beneficiary per year
LLC	limited liability company	PCV13	13-valent pneumococcal conjugate vaccine
LP	limited partner	PDE	prescription drug event
LPN	licensed practical nurse	PDP	prescription drug plan
LTCH	long-term care hospital	PE	private equity
MA	Medicare Advantage	PECOS	Provider Enrollment, Chain, and Ownership System
MAC	Medicare administrative contractor	PF	preservative free
MACRA	Medicare Access and CHIP Reauthorization Act of 2015	PFFS	private fee-for-service
MA-PD	Medicare Advantage–Prescription Drug [plan]	PFS	physician fee schedule
MA-VIP	Medicare Advantage value incentive program	PHE	public health emergency
MBS	Maximal Brewer Selection	PHF	Prime Healthcare Foundation
MBSF	Master Beneficiary Summary File	PHM	Prime Healthcare Management Inc.
MCBS	Medicare Current Beneficiary Survey	PHM II	Prime Healthcare Management II Inc.
MDH	Medicare-dependent hospital	PHN	postherpetic neuralgia
MedPAC	Medicare Payment Advisory Commission	PHS	Prime Healthcare Services Inc.
MedPAR	Medicare Provider Analysis and Review	PPE	personal protective equipment
MEI	Medicare Economic Index	PPM	physician practice management
MIPS	Merit-based Incentive Payment System	PPO	preferred provider organization
MMA	Medicare Modernization Act of 2003	PPS	prospective payment system
MRI	magnetic resonance imaging	PPSV23	23-valent pneumococcal polysaccharide vaccine
MSA	metropolitan statistical area	PSC	professional service company
MSO	management services organization	PTAC	Physician-Focused Payment Model Technical Advisory Committee
MSPB	Medicare spending per beneficiary	QRP	Quality Reporting Program
MSSP	Medicare Shared Savings Program	RADC	residents per average daily inpatient census
N/A	not applicable	RBR	resident-to-bed ratio
NACDS	National Association of Chain Drug Stores	REH	rural emergency hospital
NCD	national coverage determination	REIT	real estate investment trust
NCPA	National Community Pharmacists Association	RHC	rural health clinic
NDC	national drug code	RN	registered nurse
NP	nurse practitioner	RO	regional office
NPI	national provider identifier	RPR	resident-to-patient ratio
NQF	National Quality Forum	RTI	RTI International
NSC	National Supplier Clearinghouse	RxHCC	prescription drug hierarchical condition category
NTAP	new technology add-on payment	SCH	sole community hospital
OIG	Office of Inspector General		

SEC	Securities and Exchange Commission	Td	tetanus and diphtheria
SFF	Special Focus Facilities	Tdap	tetanus, diphtheria, and pertussis
SNF	skilled nursing facility	TEFRA	Tax Equity and Fiscal Responsibility Act of 1982
SNP	special needs plan	USPCC	U.S. per capita cost
SPE	single-purpose entity	USPSTF	U.S. Preventive Services Task Force
SPNPT	separately payable non-pass-through	VBP	value-based purchasing
SSBCI	special supplemental benefits for the chronically ill	VC	venture capital
SSI	Supplemental Security Income	VIP	value incentive program
		WAC	wholesale acquisition cost

More about MedPAC

Commission members

Michael E. Chernew, Ph.D., chair

Harvard Medical School
Boston, MA

Paul B. Ginsburg, Ph.D., vice chair

Brookings Institution
Washington, DC

Term expires April 2021

Karen DeSalvo, M.D., M.P.H., M.Sc.

Google Health
Palo Alto, CA

Marjorie Ginsburg, B.S.N., M.P.H.

Sacramento, CA

Jonathan Jaffery, M.D., M.S., M.M.M.

University of Wisconsin School of Medicine and Public Health
Madison, WI

Jonathan Perlin, M.D., Ph.D., M.S.H.A.

HCA Healthcare
Nashville, TN

Jaewon Ryu, M.D., J.D.

Geisinger Health System
Danville, PA

Susan Thompson, M.S., B.S.N.

UnityPoint Health
West Des Moines, IA

Term expires April 2022

Lawrence Casalino, M.D., Ph.D.

Weill Cornell Department of Healthcare Policy and Research
New York, NY

Brian DeBusk, Ph.D.

DeRoyal Industries
Powell, TN

Paul B. Ginsburg, Ph.D.

Amol Navathe, M.D., Ph.D.
University of Pennsylvania School of Medicine
Philadelphia, PA

Bruce Pyenson, F.S.A., M.A.A.A.

Milliman Inc.
New York, NY

Pat Wang, J.D.

Healthfirst
New York, NY

Term expires April 2023

Michael E. Chernew, Ph.D.

David Grabowski, Ph.D.
Harvard Medical School
Boston, MA

Betty Rambur, Ph.D., R.N., F.A.A.N.

University of Rhode Island
Kingston, RI

Wayne J. Riley, M.D.

State University of New York Downstate
Brooklyn, NY

Dana Gelb Safran, Sc.D.

WELL Health Inc.
Boston, MA

Commissioners' biographies

Lawrence Casalino, M.D., Ph.D., is the Livingston Farrand Professor of Public Health and chief of the Division of Health Policy and Economics in the Weill Cornell Medical School Department of Population Health Sciences. His research focuses on the intended and unintended effects of public and private policies on the types of provider organizations that exist, on the processes they use to provide care, and on the quality and cost of care, as well as the impact of policies and organizational processes on socioeconomic and racial/ethnic disparities. Dr. Casalino has served as a senior advisor to the director of the Agency for Healthcare Research and Quality and as chair of the AcademyHealth annual meeting. He currently serves on the Congressional Budget Office's Panel of Health Advisors. He was a primary care physician in private practice for 20 years. He received his M.D. from the University of California, San Francisco, and his Ph.D. in health services research from the University of California, Berkeley.

Michael E. Chernew, Ph.D., is the Leonard D. Schaeffer Professor of Health Care Policy and the director of the Healthcare Markets and Regulation Lab in the Department of Health Care Policy at Harvard Medical School. Dr. Chernew's research examines several areas related to improving the health care system, including studies of novel benefit designs, Medicare Advantage, alternative payment models, low-value care, and the causes and consequences of rising health care spending. He is also a member of the Congressional Budget Office's Panel of Health Advisors and vice chair of the Massachusetts Health Connector Board. Dr. Chernew is a member of the National Academy of Sciences, a research associate at the National Bureau of Economic Research, and a MITRE fellow. He is currently a coeditor of the *American Journal of Managed Care*. He has served on a number of CMS technical advisory panels reviewing the assumptions used by Medicare actuaries to assess the financial status of the Medicare trust funds. He was awarded the John D. Thompson Prize for Young Investigators by the Association of University Programs in Public Health in 1998 and received the Alice S. Hersch Young Investigator Award from the Association of Health Services Research in 1999. Dr. Chernew previously served on the Commission from 2008 to 2014 and was vice chair from

2012 to 2014. He earned his undergraduate degree from the University of Pennsylvania and his Ph.D. in economics from Stanford University.

Brian DeBusk, Ph.D., is chief executive officer of DeRoyal Industries in Powell, TN, which operates in the surgical, orthopedic, wound care, and health care information technology markets. He also serves as vice chairman of the Board of Trustees of Lincoln Memorial University in rural Tennessee, which includes graduate medical education programs for physicians, physician assistants, nurse practitioners, and nurses. Dr. DeBusk's prior employment includes General Electric, Inobis, and Pace Energy Systems. He has served on the faculty of both the University of Tennessee and Lincoln Memorial University, teaching classes in information technology and business strategy. Dr. DeBusk holds a Ph.D. in electrical engineering from Vanderbilt University and a master of business administration from Emory University.

Karen DeSalvo, M.D., M.P.H., MSc., is chief health officer at Google Health. She also is an adjunct professor of medicine and population health at the Dell Medical School at the University of Texas at Austin and co-convenor of the National Alliance to Impact the Social Determinants of Health. She is also past president of the Society of General Internal Medicine and serves on the board of directors for Welltower. Before joining the University of Texas, Dr. DeSalvo was dually appointed as the acting assistant secretary for health and the national coordinator for health information technology at the Department of Health and Human Services. She has also served as the New Orleans health commissioner and as vice dean for community affairs and health policy at Tulane School of Medicine. Dr. DeSalvo received her medical and public health degrees from Tulane University School of Medicine, where she also completed her residency and fellowship in internal medicine. She has a master's degree in clinical epidemiology from the Harvard School of Public Health.

Marjorie Ginsburg, B.S.N., M.P.H., is the founding executive director of the Center for Healthcare Decisions Inc., which she ran from 1994 through 2016. In that role, she was responsible for the design, implementation, and evaluation of projects and programs that fostered civic engagement around health policy issues that affected

individuals and society at large. Among the policy issues Ms. Ginsburg studied were end-of-life care, health plan benefits design, and strategies to reduce overuse of unnecessary medical care. Ms. Ginsburg currently volunteers as a Medicare counselor with California's State Health Insurance Assistance Program (called the Health Insurance Counseling and Advocacy Program) in Sacramento, CA.

Paul B. Ginsburg, Ph.D., is the Leonard Schaeffer Chair in Health Policy Studies at the Brookings Institution in Washington, DC, and professor of health policy at the University of Southern California, where he is affiliated with the USC Schaeffer Center for Health Policy and Economics. He directs the USC-Brookings Schaeffer Initiative for Health Policy. Prior positions include founder and president of the Center for Studying Health System Change, founding executive director of the Physician Payment Review Commission, senior economist at RAND, and deputy assistant director at the Congressional Budget Office. Dr. Ginsburg earned his doctorate in economics from Harvard University.

David Grabowski, Ph.D., is a professor in the Department of Health Care Policy at Harvard Medical School in Boston, MA. His research primarily focuses on the economics of aging, with an emphasis on post-acute and long-term care financing, organization, and delivery of services. He has published over 175 peer-reviewed papers related to these issues. Dr. Grabowski has served as a member of multiple CMS technical expert panels related to post-acute care payment and quality reporting. He also was a member of the CMS Coronavirus Nursing Home Commission. He serves on the editorial board of several journals, including the *American Journal of Health Economics*. Dr. Grabowski received his Ph.D. in public policy from the Irving B. Harris School of Public Policy at the University of Chicago.

Jonathan Jaffery, M.D., M.S., M.M.M., is a professor of medicine at the University of Wisconsin School of Medicine and Public Health. Dr. Jaffery serves as senior vice president/chief population health officer at UW Health and as president of UW Health ACO Inc., where he is responsible for the overall development, coordination, and implementation of the population health strategy. A board-certified nephrologist, Dr. Jaffery holds a B.A. in Russian literature from the University of Michigan and an M.D. from the Ohio State University College of Medicine. He completed an internal medicine residency

and nephrology fellowship at the University of Vermont. A former Robert Wood Johnson Foundation Health Policy Fellow and chief medical officer for the Wisconsin State Medicaid program, Dr. Jaffery has graduate degrees from the University of Wisconsin School of Medicine and Public Health and the University of Southern California Marshall School of Business.

Amol Navathe, M.D., Ph.D., is director of the Payment Insights Team, codirector of the Healthcare Transformation Institute, and associate director of the Center for Health Incentives and Behavioral Economics in the Department of Medical Ethics and Health Policy at the University of Pennsylvania's School of Medicine. He is also an assistant professor at Penn and staff physician at the Corporal Michael J. Crescenz VA Medical Center in Philadelphia, PA. Dr. Navathe's research group designs, tests, and evaluates payment models for national insurers and state Blue Cross Blue Shield plans. His work led to the founding of Embedded Healthcare, a health care technology company that accelerates high-value practice using behavioral economics. Dr. Navathe received his M.D. from the University of Pennsylvania and his Ph.D. in health care management and economics from the Wharton School at the University of Pennsylvania.

Jonathan Perlin, M.D., Ph.D., M.S.H.A., is the president of clinical operations and chief medical officer of HCA Healthcare in Nashville, TN. In that role, he has leadership responsibility for clinical services and improving performance at HCA's hospitals and other sites of service. Before joining HCA, Dr. Perlin was Under Secretary for Health in the U.S. Department of Veterans Affairs. Dr. Perlin is a member of the National Academy of Medicine and has faculty appointments at Vanderbilt University and Virginia Commonwealth University. Dr. Perlin received his Ph.D. in pharmacology and his medical degree from the Medical College of Virginia at Virginia Commonwealth University, where he also completed his residency training in internal medicine.

Bruce Pyenson, F.S.A., M.A.A.A., is principal and consulting actuary at Milliman Inc. in New York, NY. His recent work includes studies on Medicare Advantage enrollment, innovative reinsurance arrangements, definitions of value in health care, and financial modeling of therapeutic interventions. He has co-authored publications on such topics as the cost-effectiveness of lung cancer screening, pandemic influenza, alternative payment models for accountable care organizations, and site-of-service cost differences for chemotherapy.

Mr. Pyenson is a fellow of the Society of Actuaries and a member of the American Academy of Actuaries. He is adjunct clinical associate professor of New York University's College of Global Public Health.

Betty Rambur, Ph.D., R.N., F.A.A.N., is the Routhier Endowed Chair for Practice and professor of nursing in the College of Nursing at the University of Rhode Island, where she has conducted research on such topics as alternative payment models, telehealth nursing, and value-based workforce redesigns. Before joining the University of Rhode Island, Dr. Rambur served on the Green Mountain Care Board—a five-member regulatory, innovation, and evaluation board that has broad responsibility for cost containment and oversight of Vermont's transition to post-fee-for-service provider reimbursement. Previously, Dr. Rambur served as dean of the College of Nursing and Health Sciences at the University of Vermont and was chairperson for the North Dakota Health Task Force, a statewide health care financing reform initiative. Dr. Rambur received her Ph.D. in nursing from Rush University.

Wayne J. Riley, M.D., M.P.H., M.B.A., is president of the State University of New York (SUNY) Downstate Health Sciences University, where he also holds tenured professorships in both internal medicine and in health policy and management. Immediately before joining Downstate, Dr. Riley served as clinical professor of medicine and adjunct professor of health care management at Vanderbilt University. He was the also 10th president and chief executive officer of Meharry Medical College. He began his career at Baylor College of Medicine, where he completed residency training in internal medicine and held several key administrative posts, including vice president and vice dean for health affairs and governmental relations, assistant dean for education, and assistant chief of medicine at Ben Taub General Hospital—a leading public safety net teaching hospital. Dr. Riley is a member of the National Academy of Medicine (NAM) of the National Academy of Sciences, where he served as vice chair and chair of the NAM Section on Education, Research, and the Administration of Health Services. He is also president emeritus of the American College of Physicians—the nation's largest medical specialty society representing internal medicine—and president elect of the Society of Medical Administrators—an organization of 50 of the nation's leading physician-executives. He is an independent director of HCA Healthcare Inc. Dr. Riley earned a B.A.

in anthropology from Yale University, an M.P.H. in health systems management from the Tulane University School of Public Health and Tropical Medicine, an M.D. from Morehouse School of Medicine, and an M.B.A. from Rice University's Jesse H. Jones Graduate School of Business.

Jaewon Ryu, M.D., J.D., is the president and CEO for Geisinger, an integrated health care system headquartered in Danville, PA, that comprises hospitals, employed providers, a health plan, a medical school, and research and innovation centers. He previously served as president of integrated care delivery at Humana and held leadership roles at the University of Illinois Hospital & Health Sciences System and at Kaiser Permanente. Dr. Ryu received his undergraduate education at Yale University and his medical and law degrees from the University of Chicago, after which he completed his residency training in emergency medicine at Harbor-UCLA Medical Center.

Dana Gelb Safran, Sc.D., is senior vice president, Value Based Care and Population Health at Well Health Inc., a communications platform enabling dynamic, personalized communications between patients and their providers and plans. She leads the expansion of the platform's uses to improve health care outcomes and affordability through partnerships with payers and accountable care organization providers, and she is establishing an enterprise-wide measurement function to quantify customer results and inform continuous improvement and best-practice sharing. Previously, Dr. Safran was a founding executive team member at Haven, the joint venture of Amazon, Berkshire Hathaway, and JPMorgan Chase. At Haven, Dr. Safran was head of measurement and head of insurance markets and benefit redesign. Before joining Haven, Dr. Safran was chief performance measurement and improvement officer at Blue Cross Blue Shield of Massachusetts (BCBSMA). As an architect of the BCBSMA Alternative Quality Contract and the leader responsible for its unique use of behavioral economics and payer-provider collaboration to reduce cost while improving quality, Dr. Safran is widely recognized as having contributed to the national push toward value-based payment. Before joining BCBSMA, she led a research institute at Tufts University School of Medicine dedicated to developing patient-reported measures of health and health care quality. She remains on the faculty at Tufts and serves on a number of state and national advisory bodies related to health care quality and affordability. She earned her master's and doctor of science degrees from the Harvard School of Public Health.

Susan Thompson, M.S., B.S.N., served for more than 30 years in various leadership positions—most recently as interim president and chief executive officer—at UnityPoint Health, an integrated delivery system serving Iowa, central and western Illinois, and central Wisconsin. She was also the chief executive officer of UnityPoint Health Accountable Care LC, an Iowa limited liability company that brings together a diverse group of health care providers including hospitals, employed and independent physicians, and other providers, as well as other health initiatives. Prior to that, she was senior vice president of integration and optimization for UnityPoint and was president and chief executive officer of UnityPoint Health—Fort Dodge, which serves a predominantly rural and aging population and includes a sole community hospital, a primary care and multispecialty physician group, management contracts with five critical access hospitals throughout the region, and a Pioneer Accountable Care Organization. She also

served in successive clinical and management positions at Trinity Regional Medical Center, as intensive care staff nurse, director of quality systems, assistant director of patient-focused care, chief information officer, chief operating officer, and chief executive officer. Ms. Thompson obtained her B.S. in nursing and her M.S. in health services management from Clarkson College in Omaha, NE.

Pat Wang, J.D., is president and chief executive officer of Healthfirst in New York, NY. Healthfirst is a regional not-for-profit health plan, founded by area health care systems, that serves Medicare enrollees, including those who are eligible for low-income subsidies and those who are dually eligible for Medicare and Medicaid. Healthfirst incorporates a value-based payment model that aligns incentives with hospital and physician partners. Ms. Wang is a graduate of Princeton University and received her law degree cum laude from the New York University School of Law.

Commission staff

James E. Mathews, Ph.D.

Executive director

Dana K. Kelley, M.P.A.

Deputy director

Analytic staff

Alison Binkowski, M.P.H, M.I.A.

Rachel Burton, M.P.P.

Carol Carter, Ph.D.

Evan Christman, M.P.Aff.

Geoffrey Gerhardt, M.P.P.

Andy Johnson, Ph.D.

Kathryn E. Linehan, M.P.H.

Kim Neuman, M.A.

Brian O'Donnell, M.P.P.

Nancy Ray, M.S.

Eric Rollins, M.P.P.

Luis Serna, M.S.

Rachel Schmidt, Ph.D.

Jeffrey Stensland, Ph.D.

Shinobu Suzuki, M.A.

Ledia Tabor, M.P.H.

Jamila Torain, Ph.D., M.P.H.

Ariel Winter, M.P.P.

Daniel Zabinski, Ph.D.

Research assistants

Sam Bickel-Barlow

Carolyn San Soucie

Bhavya Sukhavasi

Assistant director

Stephanie Cameron, Sc.M.

Special assistant

Molly Morein

Chief financial officer

Mary Beth Spittel

Production manager

Tina Jennings, MTESL

Administrative staff

Brian Gimbert

Timothy Gulley

Cynthia Wilson

